State of West Virginia Department of Environmental Protection Office of Oil and Gas

001.03138

Well Operator's Report of Well Work

			DGE	•		•				
OCATION	: Elevation:_		.595'	Quadran	āje.			THOR	NTON	
	District:	CC	OVE	County:]	BARBO	JR	
	Latitude:		Feet South of	39	Deg.	17	Min.	30	Sec.	
	Longitude:	1,280	Feet West of	79	Deg.	52	Min.	30	_Sec.	
Company:	Texas Keystone	e, Inc.								
				Casing &	k	Used in		Left in	well	Cement fill t
Address:	560 Epsilon Dr	ive		Tubing		drilling		l		Cu. Ft.
	Pittsburgh, PA					<u> </u>				
Agent:	Jon Farmer	A		13 3	8"	42		4:	2	Sanded In
	Bryan Harris			1						
Date Perm		07/12	/10	9 5/	3"	463		46	3	180
	Work Commen			1		1				
	Work Complete			7"		1777	7	17	77	225
Verbal Plu			<u> </u>	1		1		1		
	ission granted	on:		4 1/2	"	0		51	93	180
	X Cable	Rie		1			******	1		
	ical Depth (ft.):			 		†				
Total Mag	sured Depth(ft.	3·5630		1						
Frech Wat	er Depth (ft.):	245 764		1						
	Depth (ft.):		ted	 						
To cool hai	ng mined in the	area (N/Y)?		 						
Coal Dept	he (A).	none repor		1						
Void(e) en	countered (N/X		N	1				1		
		f more than to	vo producing form	nations pl	ease in	iclude addi	itiona	l data on	separa	ne sheet)
open fla			2DD E1 V			Day zone	Den	ተከ (ብ)		5046 - 5066
open fla	Producing for	mation:	3RD ELK			Pay zone	Dep	th (ft) Initial o	nen flo	5046 - 5066
open fla	Producing for Gas: Initial op	mation: en flow:	G/S TSTM			MCF/D	Oil:	Initial o		w: <u>0</u> Bt
open fla	Producing for Gas: Initial op Final open flo	mation: en flow:	G/S TSTM 133		3/4	MCF/D MCF/D	Oil:	Initial o		
open flo	Producing for Gas: Initial op Final open flo Time of open	mation: en flow: w flow between	G/S TSTM 133 i initial and final t	ests:	N/A	MCF/D MCF/D Hours	0il: 0il:	Initial of Final op	en flov	w: 0 Bt v: 0 Bt
open fla	Producing for Gas: Initial op Final open flo	mation: en flow: w flow between	G/S TSTM 133	ests:	N/A	MCF/D MCF/D	0il: 0il:	Initial of Final op	en flov	w: <u>0</u> Bt
open fla	Producing for Gas: Initial op Final open flo Time of open Static rock Pro	mation: en flow: w flow between essure:	G/S TSTM 133 initial and final t 980		N/A	MCF/D MCF/D MCF/D Hours psig(sur	Oil: Oil: face p	Initial of Final op pressure) oth (ft)	en flov after	w: 0 Bt v: 0 Bt 144 Ho 4377 - 4389
open fla	Producing form Gas: Initial op Final open flor Time of open Static rock Pro- Second Produced	mation: en flow: w flow between essure:	G/S TSTM 133 i initial and final t		N/A	MCF/D MCF/D Hours psig(surf Pay zone MCF/D	Oil: Oil: face p e Dep Oil:	Initial of Final op oressure) oth (ft) : Initial o	en flov after pen flo	w: 0 Bt w: 0 Bt 144 Ho 4377 - 4389 w: 0 B
open fla	Producing form Gas: Initial op Final open flor Time of open Static rock Pro- Second Produ Gas: Initial op	mation: en flow: w flow between essure: coing formation	G/S TSTM 133 Initial and final t 980 On: ALEXANDE Co-mingled		N/A	MCF/D MCF/D Hours psig(surf Pay zone MCF/D	Oil: Oil: face p e Dep Oil:	Initial of Final op pressure) oth (ft)	en flov after pen flo	w: 0 Bt w: 0 Bt 144 Ho 4377 - 4389 w: 0 B
open fla	Producing form Gas: Initial op Final open flor Time of open Static rock Produced Gas: Initial open flor Final open flor	mation: wen flow: w flow between essure: ucing formation on flow:	G/S TSTM 133 initial and final t 980 on: ALEXANDE	ir.	N/A	MCF/D MCF/D MCF/D Hours psig(surf Pay zone MCF/D MCF/D Hours	Oil: Oil: face p e Dep Oil: Oil:	Initial of Final op oressure) oth (ft) : Initial o	en flov	w: 0 Bt w: 0 Bt 144 Ho 4377 - 4389 w: 0 B

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Were o	ore samples taken?	No_X	Were cuttings caught during arithms?	Yes	No_X
Were	N Electrical,	N Mechanical, YN	Y or Geophysical logs recorded on	this well?	

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS. FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL

Perforated Intervals, Fracturing, or Stimulating:

Perfed 3rd Elk 5046' - 5066 (26 shots). BD 3350 #. 210 sks 40/70 & 100 sks 20/40. 528 bbl. Gel Frac.

Perfed Alexander 4377' - 4389' (27 shots). BD 3176 #. 200 sks 40/70 & 108 sks 20/40. 598 bbl. Gel Frac.

Perfed Balltown C 3279' - 3287' (24 shots). BD 2000 #. 200 sks 40/70 & 103 sks 20/40. 475 bbl. Gel Frac.

Perfed Balltown B 3117' - 3151' (24 shots). BD 2300 #. 150 sks 40/70 & 113 sks 20/40. 503 bbl. Gel Frac.

	Top Depth	Вольт Дерій	Notes:
FUL	9	20	
SANDY SHALE	20	35	
SANDSTONE	35	53	
SHALE	ß	205	
SANDY SHALE	203	330	181 FW 45245
SANDSTONE	330	480) 1
SANDY SHALE	480	610	
SANDSTONE	610	700	
SANDY SHALE	703	1145	1/2° FW 60 754°
RED ROCK	1145	1169	
SANDSTONE	1169	1245	
RED ROCK	1245	1512	
LITTLE LIME	1312	1328	
PENCIL CAVE SHALE	1328	1358	
BIGLIME	1358	1578	
SOUAW SANDSTONE	1578	1585	
SHALE	1585	1596	
WEIR SANDSTONE	1596	1748	
BEREA SANDSTONE	13-0 1748	1789	
SHALE	1780	1800	
GANTZ SANDSTONE	1800	1842	
LOWER GANTZ SANDSTONE	1842	1891	
SANDY SHALE	1894	2480	
BAYARD SANDSTONE	2460	2486	
SPECHLEY A SANDSTONE	2486	2604	
SPEECHLEY B SANDSTONE	2604	2630	
SANDY SHALE	2630	3117	RECEIVED
BALLTOWN B SANDSTONE	3117	3244	Office of Oll & Gas
BALLTOWN C SANDSTONE	3244	3292	Office of Oil or area
SANDY SHALE	3292	4151	·
BENSON SILISTONE	4151	4168	JAN 28 2013
SANDY SHALE	4168	4355	SPRIT & C LOTS
ALEXANDER	4355	4402	_
SHALE	4402	4554	WW Denartment Of
IST ELK SILTSTONE	4564	4630	WV Department of Environmental Protection
SANDY SHALE	453C	4821	Environmental Protection
2ND ELK SILTSTONE	4521	4855	Best 1 V.11 CT 11 TO TO TO TO
SANDY SHALE	4855	5048	
SRD ELK SILTSTONE	5048	5116	
SANDY SHALE	5106	5440	
STHELK SILTSTONE	5440	5495	
SHALE	5 195	5530	rp

Third Producing Remove	or: <u>UALLIOWN</u> C	Pay zone Depth (t) 32	79 - 3287
Gas: Initial open flow:	Co-mingled	MCP/D Oil: initial open Now:	0 Bbl/d
Final open flow	Co-mingled	MCFD Oil: Final open flow:	
Time of open flow beave	un initial and final tests	Hours	
Static rock Pressure:	Co-mingled	psig(surface pressure) after	- Hours
Fourth Producing format	in BALLTOONE	December Donate (6)	
	Will Drubble On N B	ray zone Debin (Ti) 31	.17 - 3151
Gas: Initial open flow:	Co-mingled		0 BbVd
Gas: Initial open flow: Final open flow		MCF/D Oil: Initial open flow:	
Gas: Initial open flow:	Co-mingled Co-mingled		0 Bbl/d

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State of West Virginia Department of Environmental Protection Office of Oil and Gas

001.03140

Well Operator's Report of Well Work

Farm name: BIGELOW LODGE		Operator Well	l No.: 16				
LOCATION	N: Elevation: 1822'		Quadrangle:	NESTORVILLE			
	District:	COVE	County:		BARBOUR		
	Latitude: 110	Feet South of		15 Mir	1. 0 Sec.		
	Longitude: 750	Feet West of			1. 30 Sec.		
Company:	Texas Keystone, Inc.						
			Casing &	Used in	Left in well	Cement fill up	
Address:	560 Epsilon Drive		Tubing	drilling		Cu. Ft.	
	Pittsburgh, PA 15238	***************************************	1				
	Jon Farmer		13 3/8"	42	42	Sanded In	
Inspector:	Bryan Harris						
Date Permi	t Issued: 06	/29/10	9 5/8"	463	463	180	
Date Well V	Work Commenced: 09	/13/11					
Date Well	Work Completed: 09	/20/11	7"	1982	1982	270	
Verbal Plus							
Date Permi	ssion granted on:	_	4 1/2"	0	5730	210	
Rotary	X Cable Rig						
Total Verti	cal Depth (ft.): 5871						
Total Meas	ured Depth(ft.):5871						
Fresh Wate	er Depth (ft.): 130, 920)			1		
Salt Water	Depth (ft.): none rep	orted					
	g mined in the area (N/)	O? N					
Coal Depth	s (fL): 770						
Void(s) enc	ountered (N/Y) Depth(s): N				<u> </u>	
open flo	W DATA (If more than	two producing form	nations please in	clude addition	al dana on separa	te sheet)	
	Producing formation:	5TH ELK		Pay zone De		5633 - 5642	
	Gas: Initial open flow:	G/S TSTM			: Initial open flov		
	Final open flow	133		MCF/D Oil	: Finel open flow	: <u>0</u> Bbl/d	
	Time of open flow between	en initial and final to	sts: N/A	Hours			
	Static rock Pressure:	1140		psig(surface	pressure) after	144 Hours	
	Second Producing forms	tion: 3RD ELK		Pay zone De		5266 - 5294	
	Gas: Initial open flow:			MCF/D Oil	: Initial open flor	v: 0 Bbl/d	
	Final open flow			MCF/D Oil	: Final open flow	r: 0 Bbi/d	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Co-mingled

Co-mingled

Time of open flow between initial and final tests:

Final open flow

Static rock Pressure:

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MCF/D Oil: Final open flow:

psig(surface pressure) after

Hours

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WV Department of Environmental Protection

Were c	ore samp	pies taken?		No_X_	Were	cuttings caught duringlin	ng? Yes	No <u>X</u>
Were	N	_Electrical,	N	Mechanical,	Y	or Geophysical logs records	ed on this well?	

NOTE: IN THE AREA BELOW PUT THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL

Perforated Intervals, Fracturing, or Stimulating:

Perfed 5th Elk 5633' - 5642' (18 shots). BD 3700 #. 100 sks 40/70 & 112 sks 20/40. 460 bbl. Gel Frac.

Perfed 3rd Elk 5266' - 5294' (20 shots). BD 2400 #. 200 sks 40/70 & 107 sks 20/40. 613 bbl. Gel Frac.

Perfed Alexander 4602' - 4611' (27 shots). BD 3262 #. 200 sks 40/70 & 109 sks 20/40. 597 bbl. Gel Frac.

Perfed Benson 4381' - 4387' (18 shots). BD 4448 #. 150 sks 40/70 & 112 sks 20/40. 477 bbl. Gel Frac.

Perfed Balltown C 3512' - 3525' (21 shots). BD 3693 #. 150 sks 40/70 & 117 sks 20/40. 451 bbl. Gel Frac.

Formations Encountered:	Top Depth	Bottom Depth	Notes:
FILL	0	16	
SANDY SHALE	16	30	
SANDSTONE	30	42	
SANDY SHALE	42	200	DAMP @ 130'
SANDSTONE	200	240	
SANDY SHALE	240	440	
SANDSTONE	440	515	
SHALE	515	680	
SANDSTONE	680	770	
COAL	770	780	
SANDY SHALE	780	865	
SANDSTONE	865	1115	1/4" FW @ 920"
SANDY SHALE	1115	1190	
REDROCK	1190	1250	
SANDSTONE	1250	1375	
RED ROCK	1375	1544	
LITTLE LIME	1544	1559	
PENCIL CAVE SHALE	1559	1590	
BIG LIME	1590	1805	
SOUAW SANDSTONE	1805	1812	
SHALE	1812	1\$25	
WEIR SANDSTONE	1825	1975	
BEREA SANDSTONE	1975	2006	
SHALE	2006	2027	
GANIZ SANDSTONE	2027	2066	
LOWER GANTZ SANDSTONE	2066	2098	
SANDY SHALE	2098	2687	
BAYARD SANDSTONE	2687	2702	
SANDY SHALE	2702	2718	
SPEECHLEY A SANDSTONE	2718	2833	
SPEECHLEY B SANDSTONE	2833	2844	
SANDY SHALE	2844	3511	RECEIVED
BALLTOWN C SANDSTONE	3511	3528	Office of Oil & Gas
SANDY SHALE	3528	4376	Office of Off & Gas
BENSON SILTSTONE	4376	4390	
SANDY SHALE	4390	4579	JAN 2 8 2013
ALEXANDER	4579	4619	57H 20 2013
SHALE	4619	4788	
IST ELK SILTSTONE	4788	4313	WV Department of
SANDY SHALE	4818	5049	AAA Dehamiliem Ol
2ND ELK SILTSTONE	5049	5091	Environmental Protection
SANDY SHALE	\$091	5268	- The state of the
3RD ELK SILTSTONE	5268	5310	
SANDY SHALE	5310	5604	
5TH ELK SILTSTONE	5604	5658	777
SHALE	565\$	5871	סו

Third Producing formati	on: ALEXANDER	Pay zone Depth (ft) 4602 - 4611
Gas: Initial open flow:	Co-mingled	MCF/D Oil: Initial open flow: 0 Bbl/d
Final open flow		MCF/D Oil: Final open flow: 0 Bbl/d
Time of open flow between	een initial and final tests:	Hours
Static rock Pressure:	Co-mingled	psig(surface pressure) after Hours
Fourth Producing forma	tion: BENSON	Pay zone Depth (ft) 4381 - 4387
Gas: Initial open flow:	Co-mingled	MCF/D Oil: Initial open flow: 0 Bbl/d
Final open flow	Co-mingled	MCF/D Oil: Final open flow: 0 Bbl/d
Time of open flow between	cen initial and final tests:	Hours
Static rock Pressure:	Co-mingled	psig(surface pressure) after - Hours
Fifth Producing formation	n: BALLTOWN C	Pay zone Depth (ft) 3512 - 3525
Gas: Initial open flow:	Co-mingled	MCF/D Oil: Initial open flow: 0 Bbl/d
Final open flow	Co-mingled	MCF/D Oil: Final open flow: 0 Bbl/d
	een initial and final tests:	Hours
Static rock Pressure:	Co-mingled	psig(surface pressure) after Hours

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State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	08/10/2012	V
API#:	47-33-05343	

JAN 28 2013

01/25/2013 Date

arm name: Davis, Laura Goff	Operator Wel	l No.: Goff 4	HM	
OCATION: Elevation: 1,196 GL / 1,214 KB	Quadrangle: _	Wolf Summit		
District: Clark Latitude: 7,890 Feet South of 39 Deg. Longitude 7,210 Feet West of 80 Deg.	Min			
Company: PDC Mountaineer	Casing &	Used in	Left in well	Cement fill
Address: 120 Genesis Blvd.	Tubing C	drilling	Don't in won	up Cu. Ft.
Bridgeport, WV 26330	20"	104'	104'	CmtToSurf
Agent: Bob Williamson	13 3/8"	486'	486'	353
Inspector: Tim Bennett	9 5/8"	2,464'	2,464'	893
Date Permit Issued: 12/17/2009	5 1/2"	9,959'	9,959'	1,806
Date Well Work Commenced: 05/26/2010				
Date Well Work Completed: 08/02/2010	2 3/8"		6,727'	
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 7,041				
Total Measured Depth (ft): 9,970				
•		<u> </u>		
Fresh Water Depth (ft.): 99' Salt Water Depth (ft.): None Reported			 	
Is coal being mined in area (N/Y)? N			 	
Coal Depths (ft.): None Recorded - Air Drilled	 			
Void(s) encountered (N/Y) Depth(s) N	<u> </u>			
OPEN FLOW DATA (If more than two producing formation			iata on separate :	sheet)
	zone depth (ft)			
Gas: Initial open flow 1,165 MCF/d Oil: Initial open flow MCF/d Final open flow		bl/d		
Final open flow MCF/d Final open flow Time of open flow between initial and final tests 72				
Static rock Pressure 2200 psig (surface pressure) at				
Second producing formation N/A Pay zo				
Gas: Initial open flow MCF/d Oil: Initial open f				
Final open flow MCF/d Oil: Initial open flow MCF/d Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) at I certify under penalty of law that I have personally examined	w B Hour fter Hou	bl/d s ırs	he info	he information submitte
all the attachments and that, based on my inquiry of those indithat the information is true, accurate, and complete.	ividuals immed	iately responsi	ble for obtaining	the informal

Ves	No XX	Were cuttings caught during drilling? Yes XX No
ere core samples taken? Yes_		
Vere Electrical, Mechanical or Ge Nevis Energy Services GR log from 6060' to TI	cophysical logs recorded of the control of the cont	on this well? If yes, please list Mudlog, Quad Neutron,
FRACTURING OR STIMULA	TING, PHYSICAL CH	LLOWING: 1). DETAILS OF PERFORATED INTERVALS, IANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC OPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING M SURFACE TO TOTAL DEPTH.
erforated Intervals, Fracturing, o		
erforated interval 7,793 ft – 9,9	01 ft (350 shots). Frac'd	d 7 stages using 167 bbls 15% HCL, and 52,100 bbls of Slickwater
arrying 331,000 lbs of 100-mesh	sand, 1,324,000 lbs of 4	0/70 sand, and 174,000 lbs of 30/50 sand.
Plug Back Details Including Plug	Type and Depth(s): N/	Α
Formations Encountered:		Top Depth / Bottom Depth
Surface:		
		4.415
Little Lime	* 1397	1415 1550
Big Lime	1437	
Big Injun	1550	1603 2070
Fifty Foot	1986	
Thirty Foot	2081	2130
Fourth SS	2298	2354
Fifth SS	2404	2442
Benson	4450	4488
Sycamore Grit	6267	7305
Genessee SH	6762	6781
Tully LS	6781	6883
Hamilton	6883	6971 9970 MD - 7041' TVD
	6071	9970 MD - 7041' TVD
Marcellus SH KOP at 6060' and I	6971	

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	08/10/2012	ŧ°
API#:	47-33-05366	

OCATION: Elevation: 1,342 GL / 1,360 KB	Quadrangle: _	Wolf Summit		
District: Clark	County: Harr	ison		
Latitude: 3,756 Feet South of 39 Deg. Longitude 5,061 Feet West of 80 Deg.		. <u>30</u> Sec		
Longitude 5,061 Feet West of 80 Deg.			~.	
Company: PDC Mountaineer			1.0: "	Cement fill
Address: 120 Genesis Blvd.	Casing & Tubing	Used in drilling	Left in well	up Cu. Ft.
Bridgeport, WV 26330	20"	80'	80'	CmtToSurf
Agent: Bob Williamson	13 3/8"	411'	411'	426
Inspector: Tim Bennett	9 5/8"	2,645'	2,645'	1,025
Date Permit Issued: 12/08/2009	5 1/2"	12,504'	12,504'	2,246
Date Well Work Commenced: 10/23/2010		·		
Date Well Work Completed: 02/11/2011	2 3/8"		7,431'	
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig V				
Total Vertical Depth (ft): 7,242'				
Total Measured Depth (ft): 12,520'				
Fresh Water Depth (ft.): 77', 398'				
Salt Water Depth (ft.): 1210' (Salt Sand)				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Reported - Air Drilled.	ļ			
Void(s) encountered (N/Y) Depth(s) N				
Gas: Initial open flow 6,929 MCF/d Oil: Initial open f Final open flow MCF/d Final open flow Time of open flow between initial and final tests 72	zone depth (ft) lowB wBl 0Hours	 !bl/d bl/d s	data on separate s	sheet)
Static rock Pressure 3.300 psig (surface pressure) at	fter <u>72</u> Hou	ırs		
Second producing formation N/A Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow MCF/d Final open flow Time of open flow between initial and final tests	wB	sbl/d bl/d		

RACTURING OR STIMULATING, PHYSICAL ETAILED GEOLOGICAL RECORD OF TOOL ENCOUNTERED BY THE WELLBORIS Properties of the content of	E FOLLOWING AL CHANGE, E THE TOPS AND E FROM SURFA Frac'd 12 stages bs of 40/70 sand, a Top Depth	G: 1). DETAIL TC. 2). THE WE D BOTTOMS OF ACE TO TOTAL susing 285 bbls 1 and 76,000 lbs of	S OF PHELL LOG OF ALL FOLDEPTH.	REFORATION OF THE PROPERTY OF	og from 5500'-TD, ED INTERVALS A SYSTEMATIONS, INCLUDING
OTE: IN THE AREA BELOW PUT THE RACTURING OR STIMULATING, PHYSICAL ETAILED GEOLOGICAL RECORD OF TO OAL ENCOUNTERED BY THE WELLBORD Proposed intervals, Fracturing, or Stimulating: Inforated Interva	E FOLLOWING AL CHANGE, E THE TOPS AND E FROM SURFA Frac'd 12 stages bs of 40/70 sand, a Top Depth	G: 1). DETAIL TC. 2). THE WE D BOTTOMS OF ACE TO TOTAL susing 285 bbls 1 and 76,000 lbs of	S OF PECLL LOG F ALL FO DEPTH.	ERFORATI WHICH IS ORMATIO	ED INTERVALS A SYSTEMATIONS, INCLUDING bbls of Slickwate
ACTURING OR STIMULATING, PHYSICAL DETAILED GEOLOGICAL RECORD OF TOTAL ENCOUNTERED BY THE WELLBORD OF THE W	Frac'd 12 stages bs of 40/70 sand, a	D BOTTOMS OF ACE TO TOTAL susing 285 bbls 1 and 76,000 lbs of	F ALL FOR DEPTH.	ormatio	bbls of Slickwate
Plug Back Details Including Plug Type and Depth(Formations Encountered: Surface: ittle Lime 1 30 Foot 30 Foot Gordon Stray 4th Sand Fifth Sand	(s): N/A Top Depth	/ 1572	15% HCL, a		
rying 960,000 lbs of 100-mesh sand, 3,471,000 lbs and Back Details Including Plug Type and Depth(Formations Encountered: aurface: attle Lime 10 Foot 20 Foot 30 Foot 30 Foot 41 Sand 42 Sordon Stray 43 Sifth Sand	(s): N/A Top Depth	/ 1572	5% HCL, a		
lug Back Details Including Plug Type and Depth(Formations Encountered: Surface: ittle Lime 50 Foot 60 Foot 60 Foot 60 Foot 60 Foot 60 Foot 61 Foot 62 Fordon Stray 63 Sand 64 Sand 65 Sand	(s): N/A Top Depth	1572	30/50 sand		ottom Depth
Formations Encountered: Surface: ittle Lime *1 Sig Lime 1 So Foot 2 Sordon Stray 2 Ith Sand 3 Fifth Sand 3	Top Depth	1572		Вс	ottom Depth
Formations Encountered: Surface: ittle Lime *1 Sig Lime 1 SO Foot 2 Sordon Stray 2 Ith Sand 3 Fifth Sand 3	Top Depth	1572		Во	ottom Depth
Formations Encountered: Surface: ittle Lime *1 Sig Lime 1 SO Foot 2 Sordon Stray 2 Ith Sand 3 Fifth Sand 3	Top Depth	1572		Во	ottom Depth
Formations Encountered: Surface: ittle Lime *1 Sig Lime 1 SO Foot 2 Sordon Stray 2 Ith Sand 3 Fifth Sand 3	Top Depth	1572		Во	ottom Depth
Formations Encountered: Surface: ittle Lime *1 ig Lime 1 0 Foot 2 Foot 2 Fordon Stray 2 Ith Sand 3	Top Depth	1572		Во	ottom Depth
ittle Lime *1 Sig Lime 1 O Foot 2 Ordon Stray 2 Ith Sand 3 Fifth Sand 4	557	1572		Во	ottom Depth
ittle Lime *1 Sig Lime 1 So Foot 2 Sordon Stray 2 Ath Sand 3 Fifth Sand 4	557	1572		Во	ottom Depth
Little Lime *1. Big Lime 1 50 Foot 2 Bordon Stray 2 4th Sand 3 Fifth Sand 4	557	1572			
ittle Lime *1. Sig Lime 1 Sig Foot 2 Sordon Stray 2 Ath Sand 3 Fifth Sand 3					
ig Lime 1 0 Foot 2 0 Foot 2 Gordon Stray 2 Ith Sand 3					
ig Lime 1 0 Foot 2 0 Foot 2 Fordon Stray 2 Ith Sand 3		4750			
Fifth Sand	595	1752			
30 Foot 2 Gordon Stray 2 Hth Sand 2 Fifth Sand 3	2142	2228			
Gordon Stray 4th Sand Fifth Sand	2242	2280			
4th Sand Fifth Sand	2240	2260			
Fifth Sand	2442	2510			
	2567	2609			
Benson	4626	4670			
	6416'	6450'			
	6900'	6921'			
	6921'	6998'			
Hamilton	6998'	7109'			
namilion	7109'	12,520' MC		242' TVD	
Marcellus 311		17.000 0510	S loosted	on the pad	and shown throu
KOP at 6017' & LP at 7193' the Benson. Directional GR log started a			aucted o	have from	
the Benson. Directional GR log started a	t 5500'KB and	those tops are	quoteu a	pove iron	o Sycamore to of Office of UA

Farm name: Salemo, Albert, ET AL

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

Operator Well No.: Harbert East A 2H

DATE:	5/16/2012
API#:	47-033-05542

ATION: Elevation: 1243'	_ Quadrangle: <u>S</u>	hinnston 7.5'		
District: Eagle	County: Harris	on		
Latitude: 11,610 Feet South of 39 Deg.	25 Min.	00 Sec		
Longitude 3,550 Feet West of 80 Deg	. 20 Min.	ooSec	.	
Company: XTO Energy, Inc.				
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
	20"	108'	108'	300 sks
Agent: Gary Beall	13 3/8"	529'	529'	454 sks - CTS
Inspector: Tristan Jenkins	9 5/8"	2786'	2786'	209 sks
Date Permit Issued: 6/09/2011	5 1/2"	10515'	10515'	1468 sks
Date Well Work Commenced: 7/16/2011			<u> </u>	
Date Well Work Completed: 4/30/2012				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 7183'				
Total Measured Depth (ft): 10515'				
Fresh Water Depth (ft.): None Noted				
Salt Water Depth (ft.): None Noted	_		ļ	
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Noted				
Void(s) encountered (N/Y) Depth(s) N		<u> </u>		
	/ zone depth (ft)_	71/1-/183		
Gas: Initial open flow Show MCF/d Oil: Initial open	flowB	bl/d	.*	N = .
Final open flow Show MCF/d Final open flor Time of open flow between initial and final tests	Bu)1/Q		
Static rock Pressurepsig (surface pressure)	afterHou	rs		
-				
Second producing formation Pay 2 Gas: Initial open flow MCF/d Oil: Initial open	one depth (π)	bl/d		
Final open flowMCF/d Final open flow	owBt	ol/d		
Time of open flow between initial and final tests	Hours	i		
Static rock Pressurepsig (surface pressure)	afterHou	rs		
ify under penalty of law that I have personally examine	d and am familia	r with the info	rmation submitt	ed on this documer
e attachments and that, based on my inquiry of those inc	dividuals immedi	ately responsil	ble for obtaining	g the information I
he information is true, accurate, and complete.				

Signature

		V
Were core samples taken?	YesNo_X	Were cuttings caught during drilling? Yes X NoNo
Were Electrical, Mechanical	l or Geophysical logs re	corded on this well? If yes, please list
FRACTURING OR STIN	MULATING, PHYSIC. CAL RECORD OF T	E FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, AL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING E FROM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fractur		
		7020 psi@78 bpm; 91,009#s 100 mesh; 310,459#s 30/50 mesh; 8,315 bbl water, 733 bbl treated water
		3932 psi@86 bpm; 92,067#s 100 mesh; 309,629#s 30/50 mesh; 8,575 bbl water, 920 bbl treated water
		343 psi@85 bpm; 91,318#s 100 mesh; 301,431#s 30/50 mesh; 8,554 bbl water, 842 bbl treated water
		799 psi@83 bpm; 88,261#s 100 mesh; 306,523#s 30/50 mesh; 8,507 bbl water, 905 bbl treated water
		18 psi@85 bpm; 100,758#s 100 mesh; 302,619#s 30/50 mesh; 8,344 bbl water, 1300 bbl treated water
		932 psi@85 bpm; 75,453#s 100 mesh; 269,755#s 30/50 mesh; 7,741 bbl water, 851 bbl treated water
Plug Back Details Including	g Plug Type and Depth(s	s):
See additional page	s	
Formations Encountered: Surface:		Top Depth / Bottom Depth
Surface	0/2800	
SH, SLTST	2800/2890	
SLTST, SH	2890/2950	
SH, SLTST	2950/3010	
SLTST, SS, SH	3010/3100	
SLTST, SS, SH, LS	3100/3120	
SH, SLTST	3120/3160	
SH, SLTST, SS	3160/3220	
SH, SLTST	3220/3250	
SLTST, SH, LS	3250/3280	
SLTST, SH	3280/3310	
SH, SLTST	3310/3430	
SLTST, SH, SS	3430/3510	
SH, SLTST, SS	3510/3580	·
See additional pages		

larbert East A 2H 47-033-05542

\dditional Stages

3tg 7 Marcellus; 8,743'-8,917'; 72 shots; Slick water frac; Avg treating 6749 psi@85 bpm; 76,040#s 100 mesh; 268,423#s 30/50 mesh; 7,529 bbl water, 1001 bbl treated water

3tg 8 Marcellus; 8,488'-8,662'; 72 shots; Slick water frac; Avg treating 6615 psi@84 bpm; 75,244#s 100 mesh; 267,180#s

Stg 9 Marcellus; 8,233'-8,407'; 72 shots; Slick water frac; Avg treating 6708 psi@85 bpm; 75,356#s 100 mesh; 267,402#s 30/50 mesh; 8,524 bbl water

Stg 10 Marcellus; 7,978'-8,152'; 72 shots; Slick water frac; Avg treating 7221 psi@76 bpm; 75,011#s 100 mesh; 267,347#s

Stg 11 Marcellus; 7,723'-7,897'; 72 shots; Slick water frac; Avg treating 6698 psi@84 bpm; 49,943#s 100 mesh; 278,688#s

30/50 mesh; 8,263 bbl water

Additional Formation Log

3640 3720 3910 4050 4090 4150 4480 4510 4540 4600 4810
3910 4050 4090 4150 4480 4510 4540 4600
4050 4090 4150 4480 4510 4540 4600
4090 4150 4480 4510 4540 4600
4150 4480 4510 4540 4600
4480 4510 4540 4600
4510 4540 4600
4540 4600
4600
4810
4840
4870
4990
5830
7060
7080
7180
7300
7360
7370
7440
7460
7600
7650
10515

larbert East A 2H Additional Formation Log

47-033-05542

FORMATION	TVD Tops
3IG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6898
TULLY LIMESTONE	6941
HAMILTON SHALE	6994
MARCELLUS SHALE	7052
PURCELL LIMESTONE	7158

* Tops projected from offset log due to air drilling and therefore not logging this section

Tully	7204 MD
Tuny	6941 TVD
Hamilton	7279 MD
namiliton	6994 TVD
Marcellus	7362 MD
Maicenas	7052 TVD

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/16/2012
API #:	47-033-05543

ATION: Elevation: 1243	Quadrangle: _	Shinnston 7.5'		
District: Eagle	County: Harri	son		
Latitude: 11,610 Feet South of 39 Deg.	25Mir	ı. <u>00 </u>		-
Longitude 3,560 Feet West of 80 Deg	Mir	1. <u>00</u> Se	c.	
NTO Parama Inc				
Company: XTO Energy, Inc.	Casina &	Used in	Left in well	Cement fill
Address: PO Box 1008, Jane Lew, WV 26378	Casing & Tubing	drilling	Left in wen	up Cu. Ft.
Address.	20"	112'	112'	300 sks
Agent: Gary Beall	13 3/8"	529'	529'	464 sks
Inspector: Tristan Jenkins	9 5/8"	2757'	2757'	750 sks
Date Permit Issued: 6/09/2011	5 1/2"	10765'	10765'	1482 sk
Date Well Work Commenced: 8/4/2011				
Date Well Work Completed: 4/30/2012				
Verbal Plugging:				
Date Permission granted on:				<u> </u>
Rotary Cable Rig				<u> </u>
Total Vertical Depth (ft): 7205'				
Total Measured Depth (ft): 10744'				
Fresh Water Depth (ft.): 268'				
Salt Water Depth (ft.): None Noted				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): None Noted				
Void(s) encountered (N/Y) Depth(s) N				
Producing formation Marcellus Pay Gas: Initial open flow Show MCF/d Oil: Initial open Final open flow Show MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressurepsig (surface pressure)	zone depth (ft) flowl owBHou) <u>7160-7204</u> Bbl/d Bbl/d rs	data on separate	sheet)
Second producing formation Pay 2 Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure)	flowE owE Hou	Bbl/d 3bl/d rs		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

674-12 Date

Were core sa	mples taken?	YesNo_X	Were c	uttings caught during d	rilling? Yes_X	No
		al or Geophysical logs rec				
	VD, MWD, Mudlogs					
FRACTUR DETAILEI COAL ENG	ING OR STIME OF GEOLOGIC COUNTERED	A BELOW PUT TH MULATING, PHYSICA CAL RECORD OF T DBY THE WELLBORI	AL CHANGE, ETC. 2 HE TOPS AND BO	2). THE WELL LOG TTOMS OF ALL F	WHICH IS A SY	SIEMATIC
		ring, or Stimulating:				
		nots; Slick water frac; Avg treating 7				•
		nots; Slick water frac; Avg treating 7			-	
		ots; Slick water frac; Avg treating 7				
		ts; Slick water frac; Avg treating 70				
		ts; Slick water frac; Avg treating 70				
		ts; Slick water frac; Avg treating 70		mesh; 269,952#s 30/50 mesh; 7	,586 bbl water, 1000 bbl	treated water
Plug Back D	etails Includin	ng Plug Type and Depth(s	s): 			
See addit	tional page	es				
Formations Surface:	Encountered:		Top Depth		Bottom I	<u> Depth</u>
SS	0/140					
SH	140/200					
SS	200/212					
SH	212/240					
SH, SS	240/320	1/4" stream	H2O@ 268'			
SH	320/325					· · · · · · · · · · · · · · · · · · ·
SS	325/330					
SH	330/340					
SH, SS	340/410					
SH	410/500					
SS, SH	500/550					
SH	550/1092					
SS, SH	1092/1543	3				
SH	1543/2127	7				
See addit	ional pages					

Harbert East A 3H 47-033-05543

Additional Stages

Stg 7 Marcellus; 8,892'-9,078'; 72 shots; Slick water frac; Avg treating 7186 psi@82 bpm; 75;423#s 100 mesh; 118,976#s 30/50 mesh; 8,795 bbl water

Stg 8 Marcellus; 8,623'-8,809'; 72 shots; Slick water frac; Avg treating 6845 psi@86 bpm; 75,818#s 100 mesh; 265,117#s 30/50 mesh; 8,499 bbl water

Stg 9 Marcellus; 8,354'-8,540'; 72 shots; Slick water frac; Avg treating 6879 psi@85 bpm; 74,813#s 100 mesh; 265,981#s 30/50 mesh; 8,513 bbl water

Stg 10 Marcellus; 8,131'-8,271'; 72 shots; Slick water frac; Avg treating 6908 psi@86 bpm; 75,657#s 100 mesh; 268,135#s 30/50 mesh; 8,570 bbl water

Stg 11 Marcellus; 7,862'-8,048'; 72 shots; Slick water frac; Avg treating 6784 psi@84 bpm; 73,325#s 100 mesh; 266,172#s 30/50 mesh; 8,540 bbl water

Stg 11 Marcellus; 7,593'-7,779'; 72 shots; Slick water frac; Avg treating 6356 psi@83 bpm; 76,377#s 100 mesh; 265,447#s 30/50 mesh; 8,494 bbl water

Additional Formation Log

SS,SH 2127 2322 SH 2322 2770 SLTST,SH 2770 2880 SH, SLTST 2880 2890 SLTST, SH 2890 2920 SLTST,SH,SS 2920 2950 SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SH,SLTST 3490 3700 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4300 SH,SLTST 4510 4780 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,SLS 6970 7030 SH,LS 6970 7030 SH,LS 7070			
SITST,SH 2770 2880 SH, SLTST 2880 2890 SLTST, SH 2890 2920 SLTST,SH,SS 2920 2950 SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SH,SLTST 3490 3700 SH,SS,SLTST 3700 3970 SH,SLTST 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST,SS,SH 4270 4300 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,SLTST 4810 6970 SH,LS 6970 7030	SS,SH	2127	
SH, SLTST 2880 2890 SLTST, SH 2890 2920 SLTST,SH,SS 2920 2950 SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST 4430 4510 SH,SLTST 4510 4780 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 6970 7030 <td>SH</td> <td>2322</td> <td>2770</td>	SH	2322	2770
SITST, SH 2890 2920 SLTST,SH,SS 2920 2950 SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SH,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH,SLTST,SS 3970 4000 SH,SLTST 4030 4090 SH,SLTST 4180 4210 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST 4430 4510 SH,SLTST,SS 4430 4510 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 6970 7030 SH,LS 7070 7100 SH,LS 7070 7100	SLTST,SH	2770	
SLTST, SH 2890 2920 SLTST,SH,SS 2920 2950 SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SLTST,SH,SS 3400 3490 SH,SLTST 3700 3970 SH,SLTST 3970 4000 SH,SLTST,SS 3970 4000 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST 4510 4780 SH,SLTST 4510 4780 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 6970 7030 SH,LS 7070 7100 </td <td>SH, SLTST</td> <td>2880</td> <td>2890</td>	SH, SLTST	2880	2890
SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,SLS 6970 7030 SH,LS 7070 7100 SH,LS 7070 7100		2890	2920
SH,SLTST 2950 3070 SH,SLTST,SS 3070 3280 SLTST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,SLTST 4810 5410 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100	SLTST,SH,SS	2920	
SITST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100 SH,LS 7070 7100		2950	3070
SLTST,SH 3280 3310 SH,SLTST 3310 3400 SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100 SH,LS 7070 7100	SH,SLTST,SS	3070	
SLTST,SH,SS 3400 3490 SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH,SLTST 4300 4390 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 6970 7030 SH,LS 7070 7100 SH,LS 7070 7100		3280	3310
SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH,SLTST 4510 4780 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100 SH,LS 7070 7100	SH,SLTST	3310	3400
SH,SS,SLTST 3490 3700 SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4430 4510 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100 SH,LS 7070 7100	SLTST,SH,SS	3400	
SH,SLTST 3700 3970 SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 7070 7000 SH,LS 7070 7100		3490	
SH,SLTST,SS 3970 4000 SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 7070 7070 SH,LS 7070 7100 SH,LS 7070 7100		3700	3970
SH 4000 4030 SH,SLTST 4030 4090 SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 7070 7100 SH,LS 7070 7100 SH,LS 7070 7100		3970	
SH 4090 4180 SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,LS 6970 7030 SH,LS 7070 7000 SH,LS 7070 7100 SH,LS 7070 7100		4000	4030
SH,SLTST 4180 4210 SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7070 7100 SH,LS 7070 7100	SH,SLTST	4030	
SH 4210 4270 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH,SLTST 6970 7030 SH,LS 6970 7030 LS,SH 7070 7100 SH,LS 7070 7100	SH	4090	4180
SIT 100 SLTST,SS,SH 4270 4300 SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7070 7100 SH,LS 7070 7100	SH,SLTST	4180	4210
SH,SLTST 4300 4390 SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7070 7100 SH,LS 7070 7100	SH	4210	4270
SH, SETST 4390 4430 SH, SLTST, SS 4430 4510 SH, SLTST 4510 4780 SH, SLTST, SS 4780 4810 SH, SLTST 4810 5410 SH 5410 6970 SH, LS 6970 7030 LS, SH 7030 7070 SH, LS 7070 7100	SLTST,SS,SH	4270	4300
SH 4390 4430 SH,SLTST,SS 4430 4510 SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7070 7100 SH,LS 7070 7100	SH,SLTST	4300	
SH,SLTST 4510 4780 SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100		4390	4430
SH,SLTST,SS 4780 4810 SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100	SH,SLTST,SS	4430	4510
SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100	SH,SLTST	4510	
SH,SLTST 4810 5410 SH 5410 6970 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100		4780	
SH 5410 6970 SH,LS 6970 7030 LS,SH 7030 7070 SH,LS 7070 7100		4810	
LS,SH 7030 7070 SH,LS 7070 7100			
SH,LS 7070 7100	SH,LS	6970	
311,L3	LS,SH		
SH 7100 7350	SH,LS		
	SH	7100	7350

Harbert East A 3H Additional Formation Log

47-033-05543

SH,LS	7350	7440
SH	7440	7660
LS,SH	7660	7750
SH,LS	7750	7780
SH	7780	8800
SH,LS	8800	8840
SH	8840	9170
SH,LS	9170	9200
SH	9200	10744

FORMATION	TVD
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6895
TULLY LIMESTONE	6935
HAMILTON SHALE	6987
MARCELLUS SHALE	7052
PURCELL LIMESTONE	7156
ONONDAGA LIMESTONE	7205

* Tops projected from offset log due to air drilling and therefore not logging this section

Tully	6993 MD
	6935 TVD
Hamilton	7062 MD
	6987 TVD
Marcellus	7155 MD
	7052 TVD

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	5/16/2012
API#:	47-033-05578

Farm name: Salerno, Albert, ET AL Operator Well No.: Harbert East A 4H LOCATION: Elevation: 1243' Quadrangle: Shinnston 7.5' County: Harrison District: Eagle Latitude: 11,610 Feet South of 39 Deg. 25 Min. 00 Sec. Deg. 20 Longitude 3,570 Feet West of 80 Sec. Min. 00 XTO Energy, Inc. Company: Cement fill Casing & Used in Left in well PO Box 1008, Jane Lew, WV 26378 Address: drilling **Tubing** up Cu. Ft. 90' **29 BBLS** 20" 90' Gary Beall 13 3/8" 529' 529' 454 sks Agent: Inspector: Tristan Jenkins 9 5/8" 2782' 2782' 932 sks Date Permit Issued: 9/29/2011 5 1/2" 10797' 10797' 1867 sks 10/28/2011 Date Well Work Commenced: 4/27/2012 Date Well Work Completed: Verbal Plugging: Date Permission granted on: Rotary Cable Rig Total Vertical Depth (ft): 7186' Total Measured Depth (ft): 10805' Fresh Water Depth (ft.): None Noted Salt Water Depth (ft.): None Noted Is coal being mined in area (N/Y)? N Coal Depths (ft.): None Noted Void(s) encountered (N/Y) Depth(s) N OPEN FLOW DATA (If more than two producing formations please include additional data on separate sheet) Producing formation Marcellus Pay zone depth (ft) 7173-7185 Gas: Initial open flow Show MCF/d Oil: Initial open flow _____Bbl/d Final open flow Show MCF/d Final open flow Bbl/d Time of open flow between initial and final tests_____ Static rock Pressure _____ psig (surface pressure) after ____ Hours Second producing formation _____ Pay zone depth (ft) _____ Gas: Initial open flow_____Bbl/d Final open flow MCF/d Final open flow Time of open flow between initial and final tests______Hours Static rock Pressure _____psig (surface pressure) after _____Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

6-14-12 Date

Were core sam	ples taken?	Yes	_No_X	Were	cuttings caught durin	g drilling? Yes_X_	No
Were Electrica	•	al or Geophy	sical logs recor	ded on this well? I	f yes, please list		
FRACTURIN DETAILED	IG OR STIN GEOLOGIO	MULATING	G, PHYSICAL ORD OF THI	CHANGE, ETC. E TOPS AND BO	1). DETAILS OF 2). THE WELL LO DTTOMS OF ALL TO TOTAL DEPTI	OG WHICH IS A S FORMATIONS,	YSTEMATIC
Perforated Inte	rvals, Fractu	ring, or Stin	nulating:				
Stg 1 Marcellus; 10,55	56'-10,726'; 72 sh	ots; Slick water f	rac; Avg treating 7019	9 psi@85 bpm; 73,106#s 10	00 mesh; 210,848#s 30/50 me	esh; 6,562 bbl water, 658 bb	I treated water
Stg 2 Marcellus; 10,30	95'-10,475'; 72 sh	ots; Slick water f	rac; Avg treating 6812	2 psi@82 bpm; 75,722#s 10	00 mesh; 248,816#s 30/50 me	esh; 7,279 bbl water, 825 bb	I treated water
Stg 3 Marcellus; 10,05	54'-10,224'; 72 sh	ots; Slick water f	rac; Avg treating 6779	9 psi@84 bpm; 75,032#s 10	00 mesh; 271,892#s 30/50 me	esh; 8,578 bbl water, 781 bb	I treated water
Stg 4 Marcellus; 9,803	3'-9,973'; 72 shot	s; Slick water fra	c; Avg treating 6866	psi@84 bpm; 74,830#s 100	0 mesh; 267,218#s 30/50 me	sh; 7,679 bbl water, 801 bb	treated water
Stg 5 Marcellus; 9,552	2'-9,722'; 72 shot	s; Slick water fra	c; Avg treating 6814	psi@85 bpm; 75,616#s 100	0 mesh; 265,227#s 30/50 me	sh; 7,638 bbl water, 850 bb	I treated water
Stg 6 Marcellus; 9,30	1'-9,471'; 72 shots	s; Slick water fra	c; Avg treating 6888 p	osi@86 bpm; 74,719#s 100) mesh; 265,281#s 30/50 mes	ih; 7,519 bbl water, 1000 bb	I treated water
Plug Back Deta	ails Includin	g Plug Type	and Depth(s):				
See additio	nal page	s			·		
Formations Er Surface:	ncountered:			Top Depth		Bottom	<u>Depth</u>
Fill	0/15						
SD&SH	15/88						
SD&SH	88/110						
SD&SH	110/235	5					
SD&SH	235/310)					
SD	310/410	0					
SD, SH	410/515	5					
Red Rock	515/545						
SH	545/645						
SD	645/750						
SH	750/956	5					
SD	956/113	5					
SH	1135/13	00					
SH & SD	1300/22	00				·	
See addition	al pages						

Harbert East A 4H 47-033-05578

Additional Stages

Stg 7 Marcellus; 9,050'-9,220'; 72 shots; Slick water frac; Avg treating 6650 psi@85 bpm; 76,053#s 100 mesh; 264,909#s 30/50 mesh; 7,486 bbl water, 1001 bbl treated water

Stg 8 Marcellus; 8,799'-8,969'; 72 shots; Slick water frac; Avg treating 6377 psi@86 bpm; 74,982#s 100 mesh; 264,985#s 30/50 mesh; 8,530 bbl water

Stg 9 Marcellus; 8,548'-8,718'; 72 shots; Slick water frac; Avg treating 6338 psi@84 bpm; 75,761#s 100 mesh; 264,705#s 30/50 mesh; 8,482 bbl water

Stg 10 Marcellus; 8,297'-8,467'; 72 shots; Slick water frac; Avg treating 6437 psi@86 bpm; 91,924#s 100 mesh; 301,326#s 30/50 mesh; 9,376 bbl water

Stg 11 Marcellus; 8,046'-8,216'; 72 shots; Slick water frac; Avg treating 6544 psi@85 bpm; 90,421#s 100 mesh; 303,344#s 30/50 mesh; 9,358 bbl water

Stg 12 Marcellus; 7,795'-7,965'; 72 shots; Slick water frac; Avg treating 6491 psi@85 bpm; 91,585#s 100 mesh; 311,696#s 30/50 mesh; 9,500 bbl water

Stg 13 Marcellus; 7,544'-7,714'; 72 shots; Slick water frac; Avg treating 6415 psi@85 bpm; 91,473#s 100 mesh; 309,201#s 30/50 mesh; 9,413 bbl water

Additional Formation Log

SH	0	2500
SH	2500	2785
SH	2785	2820
SH & SLTST	2820	2860
SH & SLTST	2860	2920
SH & SLTST	2920	2560
SLTST & SH & SS	2560	2980
SLTST & SH & SS	2980	3010
SH & SLTST	3010	3040
SH & SLTST	3040	3100
SH & SLTST	3100	3130
SH	3130	3165
SH & SLTST	3165	3220
SH & SLTST & SS	3220	3250
SH & SLTST	3250	3370
SH	3370	3460
SH & SLTST	3460	3540
SLTST & SH	3540	3570
SH & SLTST	3570	3710
SH	3710	3880
SH & SLTST	3880	4120
SH & SLTST & SS	4120	4150
SH & SLTST	4150	4250
SLTST & SH	4250	4390
SH & SLTST	4390	4450
SH	4450	4470
SH & SLTST	4470	4360
SH	4360	4690
SH & SLTST	4690	4750
SH	4750	4780
SH & SLTST	4780	4840

Harbert East A 4H Additional Formation Log

47-033-05578

SH	4840	4900
SH & SLTST	4900	4930
SH	4930	6950
LS & SH	6950	7090
SH & LS	7090	7110
SH	7110	7200
SH & LS	7200	7240
SH	7240	7450
SH & LS	7450	7470
SH	7470	7560
SH & LS	7560	7600
SH	7600	8030
SH & LS	8030	8060
SH	8060	10805

FORMATION	TVD
BIG INJUN*	1533
SQUAW SAND*	1623
GANTZ SAND*	2003
50FT SAND*	2054
30FT SAND*	2146
GORDON SAND*	2219
LWR GORDON *	2330
4TH SAND*	2422
5TH SAND*	2490
UPPER BALLTOWN*	3323
BALLTOWN*	3409
LOWER BALLTOWN*	3500
GENESEO SHALE	6903
TULLY LIMESTONE	6946
HAMILTON SHALE	6999
MARCELLUS SHALE	7059
PURCELL LIMESTONE	7163

^{*} Tops projected from offset log due to air drilling and therefore not logging this section

Tully	6990 MD
	6946 TVD
Hamilton	7065 MD
	6999 TVD
Marcellus	7168 MD
	7059 TVD

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1/23/2013	
API#:	47-033-05582	
	UPDATED	

4470				
TION: Elevation: 1172'	_ Quadrangle: <u>\</u>	Vest Milford		
District: Union	County: Harris	on		
Latitude: 10,581' Feet South of 39 Deg	. <u>12</u> Min.	30 Se	c.	<u> </u>
Longitude 7,812 Feet West of 80 Deg	g. <u>²⁷ </u>	30 Se	c.	
Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 54.5#	628'	628'	872 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2843'	2843'	1158 Cu. Ft. Class A
Date Permit Issued: 1/25/2012	5-1/2" 20#	16155'	16155'	3939 Cu. Ft. Class H
Date Well Work Commenced: 3/8/2012				
Date Well Work Completed: 7/3/2012	2-3/8" 4.7#	7133'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7171' TVD				
Total Measured Depth (ft): 16155' MD, 7156' TV	D (BHL)			
Fresh Water Depth (ft.): est. 175'				
Salt Water Depth (ft.): est. 1578'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): est. 103', 167', 223'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
Gas: Initial open flowMCF/d Oil: Initial open	zone depth (ft) / flow N/A BI	<u>'025' TV</u> D (To 61/d	lata on separate :	sheet)
Final open flow 7708 MCF/d Final open flow Time of open flow between initial and final tests N/A				
Static rock Pressure ³⁸⁰⁰ psig (surface pressure) a				
	· · · · · · · · · · · · · · · · · · ·			BE MAL
•	one depth (ft)	bl/d		Prist
Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flo		ol/d ol/d		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

1/23/13

Were core samples taken? YesN	oX Were cutt	tings caught during drilling? Yes X No
Were Electrical, Mechanical or Geophysic	al logs recorded on this well? If ve	s, please list Yes, CBL.
This is a subsequent well. Antero only runs wireline logs on the fir	st well on a multi-pad (Sayler Unit 2H AP# 47-033-0558	3). Please reference wireline logs submitted with Form WR-35 for Sayler Unit 2H.
FRACTURING OR STIMULATING,	PHYSICAL CHANGE, ETC. 2). D OF THE TOPS AND BOTT	DETAILS OF PERFORATED INTERVALS, THE WELL LOG WHICH IS A SYSTEMATIC FORMS OF ALL FORMATIONS, INCLUDING TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimula	ating:	
Perforations: 7245' - 16090' MD (1		
Frac'd w/ 13,500 gals 15% HCL Ad	cid, 184,062 bbls Slick Water	r carrying 987,200# 100 mesh,
3,704,100# 40/70 and 2,071,500#	20/40 sand.	
Plug Back Details Including Plug Type an	d Depth(s): N/Δ	
	1 1/1/	
		· · · · · · · · · · · · · · · · · · ·
P. C. Promintindo	Ton Donth	/ Bottom Depth
Formations Encountered: Surface:	Top Depth	J Bottom Deptii
<u>Sui mos.</u>		
Big Lime	1,663'	1,762'
Big Injun	1,763'	2,127'
Fifty Foot Sand	2,128'	2,237'
Gordon	2,238'	2,524'
Fifth Sandstone	2,525'	2,564'
Bayard	2,565'	3,221'
Speechley	3,222'	3,461'
Balltown	3,461'	3,980'
Bradford	3,981'	4,603'
Benson	4,604'	4,830'
Alexander	4,831'	4,985'
Elk	4,986'	5,586'
Rhinestreet	5,587'	6,382'
Sycamore	6,383'	6,640'
Middlesex	6,641'	6,806'
Burkett	6,807'	6,836'
Tully	6,837'	6,959'
Hamilton	6,960'	7,024'
Marcellus	7,025'	7,171' TVD

Marcellus

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1/23/2013
API #:	47-033-05586
	UPDATED

Farm name: Yeager, Charles E.		Oper	ator Well No.: S	Stutler Unit 1H	
LOCATION: Elevation: 1350'	· · · · · · · · · · · · · · · · · · ·	Quad	rangle: West Mil	ford	
District: Union		Coun	ity: Harrison		
Latitude: 5,108'	Feet South of 39	Deg. 15	Min. 00	Sec.	
Longitude 9,709'	_Feet West of 80	Deg. 27	Min. 30	Sec.	

Company: Antero Resources Appalachian Corp

Company: 1625 17th Street	Casing &	Used in	Left in well	Cement fill
Address: 1023 17th Street	Tubing	drilling		up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 54.5#	570'	570'	792 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2620'	2620'	1067 Cu. Ft. Class A
Date Permit Issued: 1/4/2012	5-1/2" 20#	16087'	16087'	3988 Cu. Ft. Class H
Date Well Work Commenced: 4/12/2012	_			
Date Well Work Completed: 8/21/2012	2-3/8" 4.7#	7303'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7186' TVD		l 1		
Total Measured Depth (ft): 16087' MD, 7180' TV	D (BHL)			
Fresh Water Depth (ft.): est. 90'				1
Salt Water Depth (ft.): est. 1890'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): est. 203', 283', 320'				
Void(s) encountered (N/Y) Depth(s) N, N/A				L

Producing formation Marcellu	s Pay zone d	lepth (ft) 7139' TVD (Top)	
Gas: Initial open flow	_MCF/d Oil: Initial open flow N/	ABbl/d	
Final open flow 10,410	MCF/d Final open flow N/A	Bbl/d	
Time of open flow between	en initial and final tests N/A	Hours	
Static rock Pressure 3800	_psig (surface pressure) after	Hours	
Second producing formation	Pay zone dep	oth (ft)	VEW SE WILL
Gas: Initial open flow	_MCF/d Oil: Initial open flow	Bbl/d	Marie
Final open flow	_MCF/d Final open flow	Bbl/d	•
Time of open flow between	en initial and final tests	Hours	
	psig (surface pressure) after	Hours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

ture

Date

Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Were core samples taken? Yes_	No_X	Were o	cuttings caught during dr	rilling? Yes_X	No
FRACTURING OR STIMULATING, PHYSICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC DETAILED GEOLOGICAL RECORD OF THE TOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL ENCOUNTERED BY THE WELLBORE FROM SURFACE TO TOTAL DEPTH. Perforated Intervals, Fracturing, or Stimulating: Perforations: 7484' - 16,022' MD (1308 holes) Frac'd w/ 14,000 gals 15% HCL Acid, 180,481 bbls Slick Water carrying 925,000# 100 mesh, 3,436,400# 40/70 and 2,011,000# 20/40 sand. Plug Back Details Including Plug Type and Depth(s): N/A Formations Encountered: Top Depth Bottom Depth Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,94' 7,067' Hamilton 7,068' 7,138'	Were Electrical, Mechanical or Ge and Photo Density/Compensated Neutron/Gam	ophysical logs recorded o	on this well? If	yes, please list Yes - CBL	, Dual Laterolog/Gamma	Ray/Caliper,
Perforations: 7484' - 16,022' MD (1308 holes) Frac'd w/ 14,000 gals 15% HCL Acid, 180,481 bbls Slick Water carrying 925,000# 100 mesh, 3,436,400# 40/70 and 2,011,000# 20/40 sand. Plug Back Details Including Plug Type and Depth(s): N/A Formations Encountered: Top Depth / Bottom Depth Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifty Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	FRACTURING OR STIMULA DETAILED GEOLOGICAL F	TING, PHYSICAL CHA RECORD OF THE TO	ANGE, ETC. 2 DPS AND BO	2). THE WELL LOG VOTTOMS OF ALL FO	WHICH IS A SYST	TEMATIC
Frac'd w/ 14,000 gals 15% HCL Acid, 180,481 bbls Slick Water carrying 925,000# 100 mesh, 3,436,400# 40/70 and 2,011,000# 20/40 sand. Plug Back Details Including Plug Type and Depth(s): N/A Formations Encountered: Top Depth / Bottom Depth Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Perforated Intervals, Fracturing, or	Stimulating:				
Plug Back Details Including Plug Type and Depth(s): N/A						
Plug Back Details Including Plug Type and Depth(s): N/A	Frac'd w/ 14,000 gals 15% H	ICL Acid, 180,481 bl	ols Slick Wa	ter carrying 925,000	0# 100 mesh,	
Formations Encountered:	3,436,400# 40/70 and 2,011	,000# 20/40 sand.				
Formations Encountered:						
Formations Encountered:						
Formations Encountered:						·
Formations Encountered:	Plug Back Details Including Plug	Type and Depth(s): N/A				
Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			·			
Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'						
Surface: Big Lime 1,728' 1,837' Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			•	•		
Big Lime 1,728' 1,837' 1,837' 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' 2,353' 3,500 2,354' 2,638' 3,060' 2,689' 2,687' 3,334' 3,577' 3,333' 3,578' 4,087' 3,578' 4,087' 3,578' 4,660' 4,856' 4,660' 4,857' 5,046' 5,629' 8,831' 4,857' 5,046' 5,629' 8,831' 6,822' 6,823' 6,877' 6,823' 6,877' 6,823' 6,877' 6,823' 6,877' 6,823' 6,877' 6,821' 6,940' 6,940' 7,067' 4,851' 6,940' 6,940' 6,940' 7,067' 4,851' 6,940' 6,940' 6,940' 7,067' 4,851' 6,940' 7,067' 4,851' 6,940' 7,067' 4,951' 6,940' 7,067' 4,951' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941' 7,067' 6,941'		Top) Depth		Bottom Dep	<u>oth</u>
Big Injun 1,838' 2,232' Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Surrace:					
Fifty Foot Sand 2,233' 2,353' Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Big Lime		1,728'		1,837'	
Gordon 2,354' 2,638' Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Big Injun		1,838'		2,232'	
Fifth Sand 2,639' 2,687' Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Fifty Foot Sand		2,233'		2,353'	
Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Gordon		2,354'		2,638'	
Bayard 2,688' 3,060' Warren Trangressive 3,061' 3,333' Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	Fifth Sand		2,639'		2,687'	
Warren Trangressive 3,061¹ 3,333¹ Speechley 3,334¹ 3,577¹ Balltown 3,578¹ 4,087¹ Bradford 4,088¹ 4,660¹ Benson 4,661¹ 4,856¹ Alexander 4,857¹ 5,046¹ Elk 5,047¹ 5,629¹ Rhinestreet 5,630¹ 6,482¹ Sycamore 6,483¹ 6,822¹ West River 6,823¹ 6,877¹ Genundewa 6,878¹ 6,919¹ Burkett 6,920¹ 6,946¹ Tully 6,947¹ 7,067¹ Hamilton 7,068¹ 7,138¹	Bayard		=	•		
Speechley 3,334' 3,577' Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			•		•	
Balltown 3,578' 4,087' Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	•		•		•	
Bradford 4,088' 4,660' Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	· ·					
Benson 4,661' 4,856' Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			•		•	-
Alexander 4,857' 5,046' Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			•		· ·	
Elk 5,047' 5,629' Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			-		•	
Rhinestreet 5,630' 6,482' Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			•		•	
Sycamore 6,483' 6,822' West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			-		· ·	
West River 6,823' 6,877' Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			~		="	
Genundewa 6,878' 6,919' Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'	•		•		•	
Burkett 6,920' 6,946' Tully 6,947' 7,067' Hamilton 7,068' 7,138'			-		•	
Tully 6,947' 7,067' Hamilton 7,068' 7,138'						
Hamilton 7,068' 7,138'						
·	•				· · · · · · · · · · · · · · · · · · ·	
	Marcellus		•		•	

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1/23/2013	
API #:	47-033-05590	_
	HDDATED	

Farm name: Charles E Yeager		Opera	ator Well No.:	Asbury Unit 3H	
LOCATION: Elevation: 1350		Quadi	rangle: West Mi	lford	
District: Union		Count	ty: Harrison		
Latitude: 5.090 Longitude 9.700	Feet South of 39 Feet West of 80	Deg. 15 Deg. 27	Min. ⁰⁰ Min. ³⁰	Sec.	

Company. Antero Resources Appalachian Corp

Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	542'	542'	753 Cu. Ft. Class A
Inspector: Tristan Jenkins	9 5/8" 36#	2,575'	2,575'	1048 Cu. Ft. Class A
Date Permit Issued: 1/18/2012	5 1/2" 20#	12,470'	12,470'	3008 Cu. Ft. Class H
Date Well Work Commenced: 5/21/2012				
Date Well Work Completed: 8/24/2012	2 3/8" 4.7#	6,844'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7,179' TVD				
Total Measured Depth (ft): 12,470' MD, 7,137' TVD (BHL)				
Fresh Water Depth (ft.): 60'				
Salt Water Depth (ft.): est. 832'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): est. 178, 257', 295'			<u> </u>	
Void(s) encountered (N/Y) Depth(s) N, N/A				

OPEN FLOW DATA (If more t Producing formation Marcellu	han two producing formations ple	ease include additional data epth (ft)7139' TVD (Top)	a on separate sheet)
Gas: Initial open flow	_MCF/d Oil: Initial open flow N/A		
Final open flow 10,468		Bbl/d	
Time of open flow between	en initial and final tests N/A	Hours	
Static rock Pressure 3600	psig (surface pressure) after	Hours	
Second producing formation_		th (ft)	104 8 8 VIII
	_MCF/d Oil: Initial open flow	Bbl/d	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Final open flow		Bbl/d	$\gamma_{\alpha,\gamma}$
	n initial and final tests	Hours	
Static rock Pressure	_psig (surface pressure) after	Hours	

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

1/23/2013

Were core samples taken? Yes	No_X Wer	e cuttings caught during drilli	ing? Yes X No
Were Electrical, Mechanical or Geoph	ivsical logs recorded on this suction	16 1 11 CBI	
This is a subsequent well. Antero only runs wireline logs on	the first well on a multi-pad (Stutler Unit 1H AP# 47-0:	33-05586). Please reference wireline logs subn	nitted with Form WR-35 for Stutler Unit 1H.
NOTE: IN THE AREA BELOVE FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECOUNTERED BY THE	W PUT THE FOLLOWING: IG, PHYSICAL CHANGE, ETC ORD OF THE TOPS AND R	1). DETAILS OF PERF	FORATED INTERVALS,
Perforated Intervals, Fracturing, or Stir	_		
Perforations: 7,469-12,405' MD	(1128 holes)		
Frac'd w/ 8,500 gals 15% HCL	Acid, 102,362 bbls Slick Wa	ater carrying 598 700# 1	IOO mesh
2,269,800# 40/70 and 1,430,300	0# 20/40 sand.	to carrying coo; room	
Plug Back Details Including Plug Type	and Depth(s): N/A		
Formations Encountered: Surface:	Top Depth		Bottom Depth
Big Lime	1 714	4 44 41	
Big Injun	1,714' 1,827'	1,826'	
Gantz Sand	2,100'	2,099'	
Fifty Foot Sand	2,224'	2,223'	
Gordon	2,344'	2,343'	
Fifth Sandstone	2,625'	2,624'	
Speechley	3,326'	3,325'	
Balltown	3,532'	3,531'	
Bradford	4,082'	4,081'	
Benson	4,653'	4,652'	
Alexander	4,844'	4,843'	•
Elk	•	5,036'	
Rhinestreet	5,037'	5,607'	
Sycamore SS	5,608'	6,487'	
Sonyea	6,488'	6,750'	
West River	6,751'	6,828'	
Burket	6,829'	6,924'	
Tully	6,925'	6,950'	
Hamilton	6,951'	7,072'	
Marcellus	7,073'	7,138'	
······································	7,139'	7,179' TVD	

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1/23/2013
API#:	47-033-05592
	UPDATED

Farm name: Sperry, Clarence E.,	Janet L., L. Diane	Oper	ator Well No.: A	A Post Unit 1H	
LOCATION: Elevation: 116	9'	Quad	lrangle: West Mill	ford	
District: Union		Cour	nty: Harrison		
Latitude: 2278 Longitude 4351	Feet South of ³⁹ Feet West of ⁸⁰	Deg. <u>15</u> Deg. <u>27</u>	Min. 00 Min. 30	Sec. Sec.	

Antero Resources Appalachian Corp

Company: Antero Resources Appalachian Corp				
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	80'	80'	77 Cu. Ft. Class A
Agent: CT Corporation System	13-3/8" 54.5#	528'	528'	757 Cu. Ft. Class A
Inspector: Tristan Jenkins	9-5/8" 36#	2450'	2450'	1677 Cu. Ft. Class A
Date Permit Issued: 1/31/2012	5-1/2" 20#	15,341'	15,341'	3824 Cu. Ft. Class H
Date Well Work Commenced: 2/7/2012				
Date Well Work Completed: 4/21/2012	2-3/8" 4.7#	7058'		
Verbal Plugging: N/A				
Date Permission granted on: N/A			 	
Rotary Cable Rig			<u> </u>	
Total Vertical Depth (ft): 7,006' TVD				
Total Measured Depth (ft): 15344' MD, 6870' TVD (BHL)				
Fresh Water Depth (ft.): 50', 75'				
Salt Water Depth (ft.): 610'				
Is coal being mined in area (N/Y)? N		<u> </u>		
Coal Depths (ft.): Pad on PGH strip bench. Sealed coal m	nine 1,850' to the	NW of pad.		
Void(s) encountered (N/Y) Depth(s) N,N/A		<u> </u>		

OPEN FLOW DATA (If more than two producing formations plea	ase include additional data on separate sheet)
Producing formation Marcellus Pay zone de	pth (ft) 6,965' TVD (Top)
Gas: Initial open flow MCF/d Oil: Initial open flow N/A	Bbl/d
Final open flow 16,882 MCF/d Final open flow N/A	Bbl/d
Time of open flow between initial and final tests N/A	Hours
Static rock Pressure 3600psig (surface pressure) after	Hours
Second producing formationPay zone depr	th (ft)
Gas: Initial open flow MCF/d Oil: Initial open flow	Bbl/d
Final open flowMCF/d Final open flow	Bbl/d Bbl/d
Time of open flow between initial and final tests	Hours
Static rock Pressurepsig (surface pressure) after	Hours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

L. Jahan Vee	_{No} X w	ere cuttings caught during drilling? YesNo_X
Were core samples taken? Yes		
Were Electrical, Mechanical or Geophy	ysical logs recorded on this well the first well on a multi-pad (Post Unit 2H APt# 4	1? If yes, please list 103 352 47-033-05492). Please reference wireline logs submitted with Form WR-35 for Post Unit 2H.
	G, PHYSICAL CHANGE, E	G: 1). DETAILS OF PERFORATED INTERVALS TC. 2). THE WELL LOG WHICH IS A SYSTEMATIO BOTTOMS OF ALL FORMATIONS, INCLUDING ACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Sti	mulating:	
Perforations: 7,202' - 15,275' (1	,644 holes)	W. L
Frac'd w/ 12,000 gals 15% HCl	Acid, 197,290 bbls Slick	Water carrying 890,420# 100 mesh,
3,940,823 # 40/70 and 2,926,3	35# 20/40 sand.	
Plug Back Details Including Plug Typ	pe and Depth(s): N/A	
	m 75 d	Bottom Depth
Formations Encountered:	Top Depth	
Surface:		4 5451
Big Lime	1,504'	1,615'
Big Injun	1,616'	2,005'
Fifty Foot Sandstone	2,006'	2,142'
Gordon	2,143'	2,417'
Fifth Sandstone	2,418'	2,470'
Bayard	2,471'	3,139'
Speechley	3,140'	3,366'
Balltown	3,367'	3,850'
Bradford	3,851'	4,437'
	4,438'	4,743'
Benson	4,744'	4,826'
Alexander	4,827'	6,282'
Elk	6,283'	6,552'
Sycamore	6,553'	6,559'
Sonyea	6,560'	6,652'
Middlesex	6,653'	6,705'
West River Shale	6,706'	6,747'
Genundewa	6,748'	6,775'
Burket	6,776'	6,894'
Tully		6,964'
Hamilton	6,895'	7,006' TVD
Marcellus	6,965'	.,

Marcellus

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	1/23/2013	
API#:	47-033-05632	
	UPDATED	

name: Yeager, Charles E	Operator Well No.: George Unit 2H Quadrangle: West Milford County: Harrison		···	
ATION: Elevation: 1350'				
District: Union				
Latitude: 5,112 Feet South of 39 Deg. Longitude 9,699 Feet West of 80 Deg				
Company: Antero Resources Appalachian Corp				T
Address: 1625 17th Street	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Denver, CO 80202	20" 94#	40'	40'	38 Cu. Ft. Class A
Agent: CT Corporation System	13 3/8" 48#	332'	332'	461 Cu. Ft. Class A
Inspector: Tristan Jenkins	9 5/8" 36#	2,504'	2,504'	1020 Cu. Ft. Class A
Date Permit Issued: 6/7/2012	5 1/2" 20#	16,013'	16,013'	4003 Cu. Ft. Class H
Date Well Work Commenced: 6/18/2012				
Date Well Work Completed: 8/30/2012	2 3/8" 4.7#	7,251'		
Verbal Plugging: N/A				
Date Permission granted on: N/A				
Rotary Cable Rig				
Total Vertical Depth (ft): 7,187' TVD				
Total Measured Depth (ft): 16,013' MD				
Fresh Water Depth (ft.): 50', 75', 90', 111', 143'				
Salt Water Depth (ft.): 2,870'				
Is coal being mined in area (N/Y)? No				
Coal Depths (ft.): 205', 284', 322'				
Void(s) encountered (N/Y) Depth(s) N, N/A				
PEN FLOW DATA (If more than two producing formation Marcellus Pay Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow Time of open flow between initial and final tests N/A Static rock Pressure 3600 psig (surface pressure) a	zone depth (ft). flow N/A E w N/A Bb Hours	7130' TVD (To ol/d	ata on separate p)	sheet)
Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open Final open flow MCF/d Final open flo Time of open flow between initial and final tests	flowB wBt	bl/d bl/d		JAN 29 7013
Static rock Pressure psig (surface pressure) a				

all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Were core samples taken? Yes	No X Were cuttings	Were cuttings caught during drilling? Yes X NoNo		
Were Electrical, Mechanical or Geophysical logs recorded on this well? If yes, please list Yes, CBL.				
This is a subsequent well. Antero only runs wheline logs on the	first well on a multi-pad (Stutler Unit 1H API# 47-033-05586). Plea	se reference wireline logs submitted with Form WR-35 for Stutter Unit 1H.		
FRACTURING OR STIMULATING DETAILED GEOLOGICAL RECO	, PHYSICAL CHANGE, ETC. 2). THI	TAILS OF PERFORATED INTERVALS, E WELL LOG WHICH IS A SYSTEMATIC IS OF ALL FORMATIONS, INCLUDING TAL DEPTH.		
Perforated Intervals, Fracturing, or Stimu	ılating:			
Perforations: 7,271-15,946' MD (1836 holes)			
Frac'd w/ 13,500 gals 15% HCL	Acid, 182,162 bbls Slick Water ca	rrying 962,500# 100 mesh,		
3,600,300# 40/70 and 2,142,000#	# 20/40 sand.			
Plug Back Details Including Plug Type a	and Depth(s): AL/A			
1128 2001 2001 2001 2001 2001 2001 2001	IN/A			
Formations Encountered:	Top Depth	Bottom Depth		
Surface:				
Fifth Sandstone	2,649'	2,699'		
Bayard	2,700'	3,345'		
Speechley	3,346'	3,592'		
Balltown	3,593'	4,098'		
Bradford	4,099'	4,672'		
Benson	4,673'	4,870'		
Alexander	4,871'	5,100'		
Elk	5,101'	6,487'		
Sycamore	6,488'	6,741'		
Sonyea	6,742'	6,759'		
Middlesex	6,760'	6,821'		
West River Shale	6,822'	6,874'		
Genundewa	6,875'	6,915'		
Burkett	6,916'	6,943'		
Tully	6,944'	7,129'		
Marcellus	7,130'	7,187' TVD		
	•	-		

WR-35 Rev (8-10)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:		
API #:	47-4702818	

rm name: Berwind Land Company	Operator We	II No.: CBM-MC1	35	<u> </u>
OCATION: Elevation: 2,317.95'	Quadrangle: War			
District: Big Creek	County: McD			
Latitude: 7.590 Feet South of 37 Deg.	17 Mir	. 30 Sec		
Longitude 2,400 Feet West of 81 Deg.	. <u>42</u> Min	ı. <u>30</u> Sec	•	
Impany: CNX Gas Company LLC				
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
2481 John Nash Blvd., Bluefield, WV 24701	13 3/8"	13'	13'	n/a
Agent: John H. Johnston	7"	380.69'	380.69'	125 sks
Inspector: Gary L. Kennedy	4 1/2"	1,796.27'	1,796.27'	120 sks
Date Permit Issued: 6/17/2011				
Date Well Work Commenced: 8/22/2011				·
Date Well Work Completed: 8/25/2011				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 1,990 DTD				
Total Measured Depth (ft):				
Fresh Water Depth (ft.): n/a				
Salt Water Depth (ft.): n/a				
Is coal being mined in area (N/Y)?				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s)				
OPEN FLOW DATA (If more than two producing formation Producing formation NO OPEN FLOW TEST CONDUCTED Pay a Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow	zone depth (ft)_ lowBt vBb	ol/d	a on separate sh	eet)
Time of open flow between initial and final tests				
Static rock Pressure psig (surface pressure) af	terHou	rs		
Second producing formationPay zon				
Gas: Initial open flowMCF/d Oil: Initial open fl	lowBt	ol/d		4,139
Final open flow MCF/d Final open flow	vBb	l/d		
Time of open flow between initial and final tests				
Static rock Pressurepsig (surface pressure) af	terHou	rs ·		•

the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

Date

Were	core samples taken?	Yes	No_X	Were cuttings	s caught during drilling?	YesNo_X
Were	Y/N Electrical,	Mechani Y/N	cal, $\frac{Y}{Y/N}$ or C	eophysical logs recorded o	on this well?	
FRAC DETA	CTURING OR STI AILED GEOLOGI	MULATINO CAL RECOI	S, PHYSICAL RD OF THE T	FOLLOWING: 1). DE CHANGE, ETC. 2). TH OPS AND BOTTOMS O URFACE TO TOTAL D	E WELL LOG WHICE F ALL FORMATION	H IS A SYSTEMATIC
Perfor	ated Intervals, Fract	uring, or Stim	ulating:			
	·					
	ations Encountered:			Top Depth	1	Bottom Depth
Surfac	<u>e:</u>					
						
			·			
						
						

4 9 1

COMPANY:

CNX GAS CO. LLC

HOLE:

MC-135

RIG:

LOCATION:

DATE STARTED:

90

8/22/2011

DATE COMPLETED:	8/25/2011

DEPTH FROM	THICKNESS TO	FT ·	STRATA DESCRIPTION, VOIDS ETC
0		13 1	3 OVERBURDEN
13		30 1	7 SAND/SHALE
30			0 SAND/SHALE
60			0 SAND/SHALE
70			2 COAL
72		90 1	8 SAND/SHALE
90		99	9 SAND
99	1	01	2 COAL
101	1	20 1	9 SAND/SHALE
120	1	50 3	0 SAND/SHALE
150	1	80 3	0 SAND/SHALE
180	2	10 3	0 SAND/SHALE
210	2	20 1	0 SAND/SHALE
220	2	22	2 COAL
222	. 2	40 1	8 SAND/SHALE
240	2	70 3	0 SAND/SHALE
270	3	00 3	0 SAND/SHALE
300	3	30 3	0 SAND/SHALE
330	3		0 SAND/SHALE
360	3	88 2	8 SAND/SHALE
388	3	90	2 COAL
390	4	00 1	0 SAND
400) 4	30	0 SAND/SHALE
430) 4	60 3	0 SAND/SHALE
460) 4	89 2	9 SAND/SHALE
489	4	190	1 COAL
490) 5	520 3	0 SAND/SHALE
520) 5	548 2	8 SAND/SHALE
548	5	550	2 COAL
550) 5	580 3	0 SAND/SHALE
580) 6	310	0 SAND/SHALE
610) 6	38 2	8 SAND/SHALE
638	3 6	340	2 COAL
640) 6	370	0 SAND/SHALE
670			0 SAND/SHALE
700			0 SAND/SHALE
730			0 SAND/SHALE
750		752	2 COAL
752		760	8 SAND/SHALE
760) 7	790	30 SAND/SHALE

790	820	30 SAND/SHALE
820	850	30 SAND/SHALE
850	880	30 SAND/SHALE
880	900	20 SAND
900	902	2 COAL
902	910	8 SAND
910	940	30 SAND/SHALE
940	970	30 SAND/SHALE
970	1000	30 SAND/SHALE
1000	1030	30 SAND/SHALE
1030	1032	2 COAL
1032	1060	28 SAND/SHALE
		15 SAND/SHALE
1060	1075	1 COAL
1075	1076	14 SAND/SHALE
1076	1090	
1090	1120	30 SAND/SHALE
1120	1150	30 SAND/SHALE
1150	1180	30 SAND/SHALE
1180	1210	30 SAND/SHALE
1210	1240	30 SAND/SHALE
1240	1270	30 SAND/SHALE
1270	1288	18 SAND/SHALE
1288	1290	2 COAL
1290	1300	10 SAND
1300	1330	30 SAND/SHALE
1330	1360	30 SANDY SHALE/SAND
1360	1387	27 SANDY SHALE
1387	1390	3 COAL
1390	1420	30 SANDY SHALE
1420	1434	14 SANDY SHALE
1434	1436	2 COAL
1436	1450	14 SANDY SHALE/SAND
1450	1480	30 SAND
1480	1510	30 SAND
1510	1540	30 SAND
1540	1545	5 SANDY SHALE
	1547	2 COAL P-3 ?
1545	1570	23 SANDY SHALE/SAND
1547		30 SANDY SHALE/SAND
1570	1600	30 SAND
1600	1630	
1630	1660	30 SANDY SHALE/SAND
1660	1690	30 SAND/SANDY SHALE
1690	1720	30 SAND/SANDY SHALE
1720	1743	23 SAND
1743	1745	2 COAL
1745	1750	5 SAND
1750	1780	30 SANDY SHALE/SAND
1780	1810	30 SAND
1810	1840	30 SSAND
1840	1870	30 SAND/SHALE
1870	1900	30 SAND/SHALE
1900	1930	30 SAND/SHALE

1930 1960 1960 1990 30 SAND/SHALE 30 SAND/SHALE RED

1990 FT. TOTAL DEPTH 13 FT. OF 13 3/8" CASING 380.69 FT. OF 7" CASING 1796.27 FT. OF 4 1/2" CASING

JIN 57.00

WR-35 Rev (8-10)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:		
API#:	47-4702820	

Farm name: Berwind Land Company	Operator Well	No.: CBM-MC1	37	
LOCATION: Elevation: 2,302.66'	Quadrangle: _	Var		
District: Big Creek	County: McDo	well		
Latitude: 7,000 Feet South of 37 Deg.	17 Min.	Sec		
Longitude 3,880 Feet West of 81 Deg.	42 Min.	. <u>30</u> Sec	•	
Company: CNX Gas Company LLC				
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
2481 John Nash Blvd., Bluefield, WV 24701	13 3/8"	13'	13'	n/a
Agent: John H. Johnston	7"	379.85'	379.85'	100 sks
Inspector: Gary L. Kennedy	4 1/2"	1,830.87'	1,830.87'	120 sks
Date Permit Issued: 6/17/2011				
Date Well Work Commenced: 8/25/2011				
Date Well Work Completed: 8/29/2011				
Verbal Plugging:				
Date Permission granted on:				
Rotary Cable Rig				
Total Vertical Depth (ft): 1,990 DTD				
Total Measured Depth (ft):				
Fresh Water Depth (ft.): n/a				
Salt Water Depth (ft.): n/a				
Is coal being mined in area (N/Y)?				
Coal Depths (ft.):				
Void(s) encountered (N/Y) Depth(s)				
OPEN FLOW DATA (If more than two producing formation Producing formation NO OPEN FLOW TEST CONDUCTED Pay Gas: Initial open flow MCF/d Oil: Initial open f	zone depth (ft)_		ata on separate sh	neet)
Final open flowMCF/d Final open flow		ol/d		
Time of open flow between initial and final tests	Hours			,
Second producing formation Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow	· · · · · · · · · · · · · · · · · · ·	bl/d bl/d		Mr. E. E. S.
Time of open flow between initial and final tests				
Static rock Pressurepsig (surface pressure) a				
The state of the s		ish sha imfa	action submitted	on this document

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.

Signature

6/21/12 Date

Were core samples taken? YesNoX	Were cuttings caught during drilling? YesNo_^
Were $\frac{Y}{Y/N}$ Electrical, $\frac{Y}{Y/N}$ Mechanical, $\frac{Y}{Y/N}$ or C	Geophysical logs recorded on this well?
	FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS, L CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIC FOPS AND BOTTOMS OF ALL FORMATIONS, INCLUDING COAL SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturing, or Stimulating:	
Formations Encountered: Surface:	Top Depth / Bottom Depth
	;
	$Mr_{ij} \in \mathcal{F}_{ij}$

COMPANY:

CNX GAS CO. LLC

HOLE:

MC-137

RIG:

93

LOCATION:

HURRICANE BRANCH, VA

DATE STARTED: DATE COMPLETED: 8/25/2011 8/29/2011

DEPTH FROM	THICKNESS TO	FT	STRATA DESCRIPTION, VOIDS ETC
	0	13	13 OVERBURDEN
	13	30	17 SAND/SHALE
	30	37	7 SAND/SHALE
	37	39	2 COAL
	39	60	21 SAND/SHALE
	60	90	30 SAND/SHALE
	90	120	30 SAND/SHALE
	120	135	15 SAND/SHALE
	135	137	2 COAL
	137	150	13 SAND/SHALE
	150	180	30 SAND/SHALE
	180	210	30 SAND/SHALE
	210	240	30 SAND/SHALE
	240	257	17 SAND/SHALE
	257	258	1 COAL 12 SAND/SHALE
	258	270	
	270	300	30 SAND/SHALE 30 SAND/SHALE
	300	330	30 SAND/SHALE
	330	360 300	30 SAND/SHALE
	360	390 400	10 SAND
	390	400 430	30 SANDY SHALE/SAND
	400	450 450	20 SANDY SHALE
	430 450	450 452	2 COAL
	452	460	8 SANDY SHALE
	460	490	30 SANDY SHALE/SAND
	490	530	40 SANDY SHALE/SAND
	530	550	20 SANDY SHALE
	550	580	30 SAND/SANDY SHALE
	580	587	7 SANDY SHALE
	587	590	3 COAL
	590	610	20 SANDY SHALE
	610	640	30 SANDY SHALE/SAND
	640	660	20 SANDY SHALE
	663	667	4 SANDY SHALE/COAL
	667	670	3 SANDY SHALE
	670	700	30 SANDY SHALE/SAND
	700	730	30 SAND/SHALE
	730	760	30 SAND/SHALE
	760	780	20 SAND/SHALE

780	782	2 COAL
782	790	8 SAND
790	820	30 SAND/SHALE
820	850	30 SAND/SHALE
850	880	30 SAND/SHALE
	910	30 SAND/SHALE
880		30 SAND/SHALE
910	940	30 SAND/SHALE
940	970	
970	1000	30 SAND/SHALE
1000	1015	15 SAND/SHALE
1015	1017	2 COAL
1017	1030	13 SAND/SHALE
1030	1048	18 SAND/SHALE
1048	1050	2 COAL
1050	1060	10 SAND/SHALE
1060	1090	30 SAND/SHALE
1090	1120	30 SAND/SHALE
1120	1150	30 SAND/SHALE
1150	1180	30 SAND/SHALE
	1210	30 SAND/SHALE
1180	1238	28 SAND/SHALE
1210		2 COAL
1238	1240	30 SAND/SHALE
1240	1270	
1270	1300	30 SAND/SHALE
1300	1330	30 SAND/SHALE
1330	1360	30 SAND/SHALE
1360	1375	15 SAND/SHALE
1375	1377	2 COAL
1377	1390	13 SAND/SHALE
1390	1420	30 SAND/SHALE
1420	1450	30 SAND/SHALE
1450	1480	30 SANDY SHALE/SAND
1480	1510	30 SAND/SANDY SHALE
1510	1540	30 SANDY SHALE/SAND
1540	1558	18 SANDY SHALE
	1561	3 COAL P-3?
1558	1570	9 SANDY SHALE
1561		30 SAND
1570	1600	30 SAND/SANDY SHALE
1600	1630	30 SAND/SANDY SHALE
1630	1660	
1660	1690	30 SANDY SHALE/SAND
1690	1720	30 SAND
1720	1750	30 SAND
1750	1780	30 SAND/SHALE
1780	1810	30 SAND/SHALE
1810	1840	30 SAND/SHALE
1840	1870	30 SAND/SHALE
1870	1900	30 SAND/SHALE
1900	1930	30 SAND/SHALE
1930	1960	30 SAND/SHALE
1960	1990	30 SAND/SHALE/RED
1000		

1990 FT. TOTAL DEPTH 13 FT. OF 13 3/8" CASING 379.85 FT. OF 7" CASING 1830.87 FT. OF 4 1/2" CASING

Ma 25.

13

WR-35 Rev (9-11)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	07/31/2012	
API#:	47-091-01222	

Farm name: Anderson, Rodney J. & Deborah A.	Operator Well	No.: Rodney J.	Anderson 4HM	The state of the s
LOCATION: Elevation: 1377' GL / 1395' KB	Quadrangle: _	Grafton 7.5'		
District: Court House	County: Taylor	r		
Latitude: 15,326 Feet South of 39° Deg.	Min.			
Longitude 7,465 Feet West of 80° Deg.	Min.	Sec		
Company: PDC Mountaineer				
Address: 120 Genesis Blvd.	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Bridgeport, WV 26330	20"	42'	42'	Sand in
Agent: Bob Williamson	13 3/8"	470'	470'	433
Inspector: Bryan Harris	9 5/8"	2790'	2790'	1,138
Date Permit Issued: 05/11/2011	5 1/2"	12,838'	12,838'	3,402
Date Well Work Commenced: 05/27/2011				
Date Well Work Completed: 11/23/2011				
Verbal Plugging:				
Date Permission granted on:	2 7/8"		2481'	
Rotary Cable Rig				
Total Vertical Depth (ft): 7,863'				
Total Measured Depth (ft): 12,863'				
Fresh Water Depth (ft.): 38', 115'				
Salt Water Depth (ft.): 830'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): Air Drilled - Unknown				
Cour Deptilis (11.).				
Void(s) encountered (N/Y) Depth(s) N				
OPEN FLOW DATA (If more than two producing formatio Producing formation Marcellus Shale Pay z	ns please includence one depth (ft)		ta on separate sl	heet)
Gas: Initial open flow N/A MCF/d Oil: Initial open flo				
Final open flow 4.220.4 MCF/d Final open flow		I/d		
Time of open flow between initial and final tests 7 Static rock Pressure 2250 psig (surface pressure) aft	110413	·e		
· · ·		•		
Second producing formation N/A Pay zon		1/1		
Gas: Initial open flow MCF/d Oil: Initial open flow MCF/d Final open flow MCF/d Final open flow				
Time of open flow between initial and final tests		, u		
Static rock Pressurepsig (surface pressure) aft		S		
I certify under penalty of law that I have personally examined a	and am familian	with the info	ation auhmittad	on this doorse at Gala
I certify under penalty of law that I have personally examined a all the attachments and that, based on my inquiry of those indiv	iduals immedia	tely responsible	e for obtaining the	ne information) believe
that the information is true, accurate, and complete.		, parada	6 ·-	office of
all the attachments and that, based on my inquiry of those indiversal that the information is true, accurate, and complete.		04/04	E (2012	28 m
Signature			Date	JAM

Were core samples taken? YesNo_XX	Were c	uttings caught during drill	ng? Yes_XX_No
Were Electrical, Mechanical or Geophysical logs re			
TVD & MD Gamma Ray LWD (limited depth), Cased Hole Sonic Scan	ner log with Bond Log & CCL to 7	520'. No logs run above 7209'.	
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYSIC DETAILED GEOLOGICAL RECORD OF TO COAL ENCOUNTERED BY THE WELLBOR	CAL CHANGE, ETC. 2 THE TOPS AND BO	t). THE WELL LOG WI TTOMS OF ALL FOR	HICH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
Perforated interval 8,225 ft - 12,772 ft (670			
of Slickwater carrying 1,124,300 lbs of 10	0-mesh sand, 4,458	3,400 lbs of 40/70 sai	nd, and 332,400 lbs of
30/50 sand.			
Plug Back Details Including Plug Type and Depth(s): N/A		
Formations Encountered:	Top Depth		Bottom Depth
Surface:			
Big Lime(est)	*1562	1641	
Gantz (est)	1994	2016	
50 Foot (est)	2045	2100	
30 Foot (est)	2108	2134	
Gordon (est)	2231	2259	
4thSand(est)	2478	2567	
5th Sand (est)	2583	2622	
Benson (est)	4497	4550	
Sycamore Grit (from logs)	6793'	6921'	
Geneseo/Burket Shale	7541'	7556'	
Tully LS	7556'	7711'	
Hamilton Group	7711'	7789'	
Marcellus SH	7789'	Not Drilled	
Est fm. tops based on 47-091-00809	TD: 7,817'	TVD / 12,863' MD	

KOP at 7209' MD / 7135' TVD LP at 8352'MD / 7863' TVD *All measurements are taken from KB and are TVD unless noted as MD.

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WR-35 Rev (9-11)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	07/31/2012	
API#:	47-091-01223	

Farm name: Anderson, Rodney J. & Deborah A.	Operator Wel	l No.: Rodney J.	Anderson 2HM	
LOCATION: Elevation: 1377' GL / 1395' KB	Quadrangle: _	Grafton 7.5'		
District: Court House	County: Taylo	or		
Latitude: 135 Feet South of 39° Deg.	17Min	30Sec		
Longitude 7.458 Feet West of 80° Deg.	Min	Sec	. .	
Company: PDC Mountaineer				
Address: 120 Genesis Blvd.	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Bridgeport, WV 26330	20"	42'	42'	419
Agent: Bob Williamson	13 3/8"	471'	471'	433
Inspector: Bryan Harris	9 5/8"	2789'	2789'	1,138
Date Permit Issued: 05/11/2011	5 1/2"	13,970'	13,970'	3,401
Date Well Work Commenced: 06/06/2011				
Date Well Work Completed: 11/22/2011				
Verbal Plugging:				
Date Permission granted on:	2 7/8"		2615'	
Rotary Cable Rig				
Total Vertical Depth (ft): 7,894'				
Total Measured Depth (ft): 13,970'				
Fresh Water Depth (ft.): 38', 115'				
Salt Water Depth (ft.): 830'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): Air Drilled - Unknown				
Void(s) encountered (N/Y) Depth(s) N	<u> </u>			
Gas: Initial open flow N/A MCF/d Oil: Initial open flow 3,634.2 MCF/d Final open flow	zone depth (ft)_ flowB wBI 720Hours	7894' TVD 	ata on separate s	sheet)
Second producing formation N/A Pay zo Gas: Initial open flow MCF/d Oil: Initial open flow Final open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) a	flowB wBl Hours	bl/d bl/d s		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information. Document and sometimes are submitted on this document and submitted on the submitted on

Were core samples taken? YesNo_XX	. Were cu	ttings caught during drilling	ng? Yes_XX_No
Were Electrical, Mechanical or Geophysical logs			
TVD & MD Gamma Ray LWD (limited depth), Cased Hole Sonic Sc	canner log with Bond Log & CCL to 79	93'. No logs run above 6462'.	
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYST DETAILED GEOLOGICAL RECORD OF COAL ENCOUNTERED BY THE WELLBOOK OF THE WELLBOO	ICAL CHANGE, ETC. 2) THE TOPS AND BOT). THE WELL LOG WH TTOMS OF ALL FOR	IICH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			
Perforated interval 8,936 ft - 13,883 ft (75			
of Slickwater carrying 1,151,100 lbs of 1	00-mesh sand, 4,496	,200 lbs of 40/70 san	d, and 236,800 lbs of
30/50 sand.			
Plug Back Details Including Plug Type and Dept	th(s): N/A		
3 2 3	· · · · · · · · · · · · · · · · · · ·		
Formations Encountered:	Top Depth	/	Bottom Depth
Surface:			
Big Lime(est)	*1562	1641	
Gantz (est)	1994	2016	
50 Foot (est)	2045	2100	
30 Foot (est)	2108	2134	
Gordon (est)	2231	2259	
4th Sand (est)	2478	2567	
5th Sand (est)	2583	2622	
Benson (est)	4497	4550	
Sycamore Grit (from logs)	6793'	6936'	
Geneseo/Burket Shale	7550'	7566'	
Tully LS	7566'	7655'	
Hamilton Group	7655'	7789'	
Marcellus SH	7802'	Not Drille	d .
Est fm. tops based on 47-091-00809	TD: 7,887'	TVD / 13,970' MD	
KOP at 6527' LP at 8981'MD / 7894' TVD	* All measurements are ta	ken from KB and are TVD) unless noted as MQುe ^ರ ್ನ ಆ ^{ನ್}
			O unless noted as MD od Gas Gas of One Office of One

WR-35 Rev (9-11)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	07/31/2012
API#:	47-091-01228

Farm name: Anderson, Rodney J. & Deborah A.				Operator Well No.: Rodney J. Anderson 5HM					
LOCATION: Elevation: 1377' GL / 1395' KB			Quadrangle:Grafton 7.5'					_	
District:	Court Hous	e		County:	Taylor				
Latitude:	149	Feet South of 39		17	Min	30	Sec.		
Longitude	7,484	Feet West of 80	oeg	02	_Min	30	Sec.		

Company: PDC Mountaineer

Company: 120 Genesis Blvd.	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.
Address: Bridgeport, WV 26330	20"	42'	42'	Sand In
Agent: Bob Williamson	13 3/8"	470'	470'	672
Inspector: Bryan Harris	9 5/8"	2780'	2780'	1,009
Date Permit Issued: 05/20/2011	5 1/2"	13,640'	13,640'	3,615
Date Well Work Commenced: 06/15/2011				
Date Well Work Completed: 11/22/2011				
Verbal Plugging:				<u> </u>
Date Permission granted on:	2 7/8"		2529'	
Rotary Cable Rig				
Total Vertical Depth (ft): 7,886'				
Total Measured Depth (ft): 13,640'				
Fresh Water Depth (ft.): 155'				
Salt Water Depth (ft.): 870'				
Is coal being mined in area (N/Y)? N				
Coal Depths (ft.): Air Drilled - Unknown				
Void(s) encountered (N/Y) Depth(s) N				

	an two producing formations please include additional data on separate sheet
Producing formation Marcello	Pay zone depth (ft) 7882' TVD
Gas: Initial open flow_N/A	MCF/d Oil: Initial open flowBbl/d
Final open flow 4,220.4	MCF/d Final open flowBbl/d
Time of open flow between	n initial and final tests 720 Hours
Static rock Pressure 1750	_psig (surface pressure) afterHours
Second producing formation_	N/A Pay zone depth (ft)
Gas: Initial open flow	MCF/d Oil: Initial open flowBbl/d
Final open flow	MCF/d Final open flowBbl/d
Time of open flow between	n initial and final tests Hours
Static rock Pressure	psig (surface pressure) afterHours

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information believe that the information is true, accurate, and complete.

Signature

01/25/2013 Date JAN S & JOH

Were core samples taken? YesNo_XX	Were	cuttings caught during drilli	ng? Yes_XX_No
Were Electrical, Mechanical or Geophysical logs reco	log with Bond Log & CCL to	8020'. No logs run above 6112'.	
NOTE: IN THE AREA BELOW PUT THE FRACTURING OR STIMULATING, PHYSICAL DETAILED GEOLOGICAL RECORD OF TH COAL ENCOUNTERED BY THE WELLBORE	L CHANGE, ETC. E TOPS AND B	, 2). THE WELL LOG WE OTTOMS OF ALL FOR	IICH IS A SYSTEMATIC
Perforated Intervals, Fracturing, or Stimulating:			:
Perforated interval 8,452 ft - 13,536 ft (790 s			
bbls of Slickwater carrying 1,274,400 lbs of	100-mesh sand,	4,900,200 lbs of 40/70	sand, and 335,100 lbs
of 30/50 sand.			
The Division of Double			
Plug Back Details Including Plug Type and Depth(s):	N/A		
Formations Encountered: Surface:	Top Depth	/	Bottom Depth
Big Lime(est)	*1562	1641	
Gantz (est)	1994	2016	
50 Foot (est)	2045	2100	
30 Foot (est)	2108	2134	
Gordon (est)	2231	2259	
4th Sand (est)	2478	2567	
5th Sand (est)	2583	2622	
Benson (est)	4497	4550	
Sycamore Grit	6798'	6923'	
Geneseo/Burket Shale	7551'	7565'	
Tully LS	7565'	7654'	
Hamilton Group	7655'	7789'	
Marcellus SH	7802'	Not Drilled	
Est fm. tops based on 47-091-00809		TVD / 13,640' MD	
KOP at 7455' MD / 7341' TVD LP at 8564'MD / 7882' TV	> * All measuremen	its are taken from KB and are	'VD unless noted as MD.

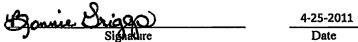
WR-35 Rev (8-10)

State of West Virginia Department of Environmental Protection Office of Oil and Gas Well Operator's Report of Well Work

DATE:	4-25-2011
API#:	47-103-02484

Farm name: Saber 8H	Operator Wel	l No.: 627263				
LOCATION: Elevation: 1320 GL	Quadrangle: Wileyville					
District: Proctor	County: Wetz	el				
Latitude: 5315 ft Feet South of 39 Deg.	42 Min	. <u>30</u> Sec				
Longitude 1275 ft Feet West of 80 Deg.	40 Min	. <u>00</u> Sec	•			
Company: Chesapeake Appalachia, LLC		1	Tr A: 11	10 469		
Address:	Casing & Tubing	Used in drilling	Left in well	Cement fill up Cu. Ft.		
P.O. Box 18496, Oklahoma City, OK 73154	20"	52'	. 52'	driven		
Agent: Eric Gillespie	13 3/8"	1245'	1245'	1,333 cf		
Inspector: David Scranage	9 5/8"	2,650'	2,651'	1,145 cf		
Date Permit Issued: 7/8/2009	5 1/2"	13,311'	1,954'	1,954 cf		
Date Well Work Commenced: 3/10/2010						
Date Well Work Completed: 1/12/2011						
Verbal Plugging:						
Date Permission granted on:						
Rotary X Cable Rig						
Total Vertical Depth (ft): 7130						
Total Measured Depth (n): 13,256						
Fresh Water Depth (ft.): 330						
Salt Water Depth (ft.): none						
Is coal being mined in area (N/Y)? NO						
Coal Depths (fl.): 900-907, 1108, 1176						
Void(s) encountered (N/Y) Depth(s) N						
OPEN FLOW DATA (If more than two producing formation Producing formation Marcellus Pay 2 Gas: Initial open flow 5671 MCF/d Oil: Initial open flow Time of open flow between initial and final tests Static rock Pressure 4635 psig (surface pressure) aft Second producing formation Pay zor Gas: Initial open flow MCF/d Oil: Initial open flow Time of open flow MCF/d Final open flow Time of open flow between initial and final tests Static rock Pressure psig (surface pressure) aft	cone depth (ft) 7 cow Bt Hours ter Hour ne depth (ft) ow Bt Hours	289:13,226: DI/d I/d :s DI/d	ta on separate si	neet)		

I certify under penalty of law that I have personally examined and am familiar with the information submitted on this document and all the attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information I believe that the information is true, accurate, and complete.



Were core samples taken?	Yes No_X	Were cuttings caught during drilling? Yes X NoNo
Were N Electrical, N Y/N	Mechanical, n N Y/N	or Geophysical logs recorded on this well?
FRACTURING OR STIM DETAILED GEOLOGIC	IULATING, PHYSI AL RECORD OF T	THE FOLLOWING: 1). DETAILS OF PERFORATED INTERVALS ICAL CHANGE, ETC. 2). THE WELL LOG WHICH IS A SYSTEMATIONE AND BOTTOMS OF ALL FORMATIONS, INCLUDING COADOM SURFACE TO TOTAL DEPTH.
Perforated Intervals, Fracturi	ing, or Stimulating:	
(see attached)		
Formations Encountered: Surface;		Top Depth / Bottom Depth
(see attached)		
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PERFORATION RECORD ATTACHMENT

Well Name and Number: Saber 8H

PERFOR	RATION RE	CORD	STIMULATION RECORD							
	Interval F	erforated				Fluid		Propping Agent		Average
Date	From	То	Date	Interval	Treated	Туре	Amount	Туре	Amount	Injection
10/30/2010	12789	13226	10/30/2010	12789	13226	Sik Wtr	23343	Sand	484660	3.5
11/3/2010	12289	12691	11/3/2010	12289	12691	Sik Wir	17914	Sand	417925	3
11/4/2010	11789	12191	11/4/2010	11789	12191	Sik Wtr	11150	Sand	375631	3
11/8/2010	11289	11710	11/8/2010	11289	11710	Sik Wtr	22895	Sand	477366	3
11/14/2010	10789	11191	11/14/2010	10789	11191	Sik Wtr	14710	Sand	590979	4
11/17/2010	10289	10691	11/17/2010	10289	10691	Slk Wtr	18704	Sand	599518	3
11/30/2010	9789	10191	11/30/2010	9789	10191	Slk Wtr	12569	Sand	601595	3.5
12/1/2010	9289	9691	12/1/2010	9289	9691	Sik Wtr	9826	Sand	498755	3
12/5/2010	8791	9191	12/5/2010	8791	9191	Sik Wir	12260	Sand	378570	3
12/10/2010	8289	8691	12/10/2010	8289	8691	Sik Wir	13153	Sand	536805	3
12/12/2010	7789	8191	12/12/2010	7789	8191	Slk Wtr	20996	Sand	639492	4
12/23/2010	7289	7691	12/23/2010	7289	7691	Sik Wtr	11942	Sand	606247	5

FORMATIONS ENCOUNTERED	TOP DEPTH (FT)	BOTTOM DEPTH (FT)
SHALE/SAND	0	500
SHALE	500	1040
SHALE/SAND	1040	1100
SHALE/LIMESTONE	1100	1108
SANDSTONE	1108	1130
SANDSTONE/COAL	1130	1176
PITTSBURGH COAL	1176	1190
SHALE/LIMESTONE	1190	1420
SAND/SHALE	1420	1851
SALT SANDS	1851	1860
SAND/SHALE	1860	2080
MAXTON	2080	2140
SAND/SHALE	2140	2250
BIG LIME	2250	2290
BIG INJUN	2290	2530
SHALE	2530	6770
SHALE/LIMESTONE	6770	6830
SHALE	6830	7015
TULLY LIME	7015	7059
HAMILTON	7059	7227
MARCELLUS	7227	N/A
TD		13256

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